

SERVICE MANUAL

FE-2 CHASSIS

MODEL	COMMANDER	DEST	CHASSIS NO.	MODEL	COMMANDER	DEST	CHASSIS NO.
KV-29LS30E	RM-887	ESP	SCC-Q53F-A	KV-29LS35B	RM-932	FR	SCC-Q54F-G
KV-29LS30K	RM-887	OIRT	SCC-Q51G-A	KV-29LS35E	RM-932	ESP	SCC-Q53G-A
KV-29LS30U	RM-887	UK	SCC-Q52F-A	KV-29LS35K	RM-932	OIRT	SCC-Q51H-A

FD Trinitron



RM-887



RM-932

TRINITRON® COLOR TV
SONY®

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR THE CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD DUE TO LIVE CHASSIS, THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED Δ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION

**APRES AVOIR DECONNECTE LE CAP DE L'ANODE,
COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET
CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE
L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE
TUBE CATHODIQUE OU AU BLINDAGE DU TUBE
CATHODIQUE.**

ATTENTION !!

*AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION
PROVENANT D'UN CHASSIS SOUS TENSION, UN
TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISE LORS
DE TOUT DÉPANNAGE LE CHASSIS DE CE RÉCEPTEUR EST
DIRECTEMENT RACCORDE À L'ALIMENTATION SECTEUR.*

ATTENTION AUX COMPOSANTS RELATIFS À
LA SÉCURITÉ!!

*LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE
MARQUE Δ SUR LES SCHÉMAS DE PRINCIPE, LES VUES
EXPLOSÉES ET LES LISTES DE PIÈCES SONT D'UNE IMPOR-
TANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT,
NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT
LE NUMÉRO DE PIÈCE EST INDICUÉ DANS LE PRÉSENT
MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.*

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
B	B/G/H, D/K, I, L	GERMAN/NICAM Stereo	VHF : E2-E12, F2-F10 UHF : E21-E69, F21-F69, B21-B69 CABLE TV : S01-S03, S1-S20, B-Q HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
E	B/G/H, D/K	GERMAN/NICAM Stereo	VHF : E2-E12 UHF : E21-E69 CABLE TV : S01-S03, S1-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
K	B/G/H, D/K	GERMAN/NICAM Stereo	VHF : E2-E12, R01-R12 UHF : E21-E69, R21-R69 CABLE TV : S01-S03, S1-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
U	I	NICAM Stereo	I UHF : E21-E69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

Picture Tube	Flat Display FD Trinitron Approx 73 cm (29 inches) 104 degree deflection	Sound output	
		Right and Left speaker	2x14W (Music Power) 2x7W (RMS)
Input/Output Terminals [REAR]			General Specifications
1: 21-pin Euro connector (CENELEC standard)	Inputs for Audio and Video signals. Inputs for RGB. Outputs of TV Video and Audio signals.	Power Requirements	220 - 240V
		Power Consumption	94W
2: 21-pin Euro connector	Inputs for Audio and Video signals. Inputs for S Video. Outputs of TV Video and Audio signals. (selectable)	Dimensions	Approx 771x592x553mm
		Weight	Approx 49kg
Phono Jacks	Output Connectors variable for Audio Signals	Supplied Accessories	RM-887 Remote Commander (1) (KV-29LS30) RM-932 Remote Commander (1) (KV-29LS35) IEC designated R6 battery (2)
Input/Output Terminals [SIDE]		Other Features	TV system Autodetection, Teletext Virtual Dolby (KV-29LS35)
Headphone jack	stereo mini jack	Remote Control System : Infrared Control	
Audio inputs	phono jacks	Power requirements	3V dc 2 batteries IEC designation R6 (size AA)
Video inputs	phono jacks		
S Video input	4 pin DIN		

Design and specifications are subject to change without notice.

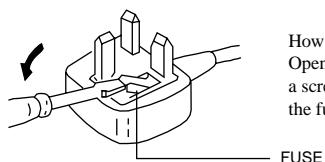
Model Name Item	KV-29LS30E	KV-29LS30K	KV-29LS30U	KV-29LS35B	KV-29LS35E	KV-29LS35K
Pal Comb	OFF	OFF	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	ON	ON	ON	ON
Woofer Box	ON	ON	ON	ON	ON	ON
Scart 1	ON	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF	OFF
Norm B/G	ON	ON	OFF	ON	ON	ON
Norm I	OFF	OFF	ON	ON	OFF	OFF
Norm D/K	ON	ON	OFF	ON	ON	ON
Norm AUS	OFF	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	OFF	OFF	ON	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF	OFF
Teletext	ON	ON	ON	ON	ON	ON
Nicam Stereo	ON	ON	ON	ON	ON	ON

WARNING (UK Models only)

The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** rating. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by ASTA to **BS 1362**, ie one that carries the  mark.

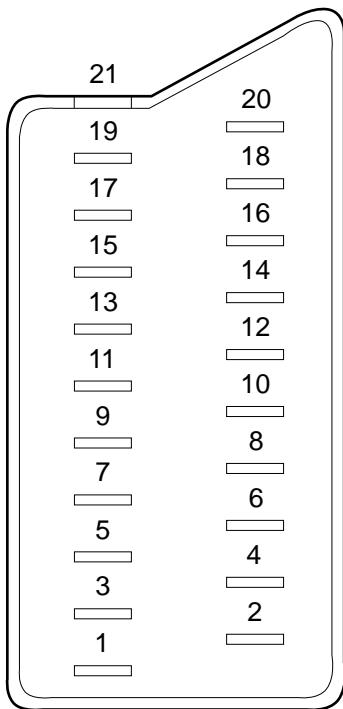
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR THE OUTLET SOCKETS IN YOUR HOME, IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET.

When an alternative type of plug is used, it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with a screwdriver blade and replace the fuse.

21 pin connector



Pin No	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
2	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance : More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance : More than 10kohm*
7	○	●	●	Blue input	0.7 +/- 3dB, 75 ohms positive
8	○	○	○	Function select (AV control)	High state (9.5-12V) : Part mode Low state (0-2V) : TV mode Input impedance : More than 10K ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 +/- 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground (blanking)	
15	○	-	-	Red input	0.7 +/- 3dB, 75 ohms, positive
	-	○	○	(S signal Chroma input)	0.3 +/- 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1-3V) Low state (0-0.4V) Input impedance : 75 ohms
17	○	○	○	Ground (video output)	
18	○	○	○	Ground (video input)	
19	○	○	○	Video output	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
20	○	-	-	Video input	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
	-	○	○	Video input Y (S signal)	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected ● Not Connected (open) * at 20Hz - 20kHz

Rear Connection Panel



Front Connection Panel



S-Video socket

S Video socket pin configuration		
Pin No	Signal	Signal Level
1	Ground	-
2	Ground	-
3	Y (S signal) input	1V +/- 3dB 75ohm, positive Sync. 0.3V -3 +10dB
4	C (S signal) input	0.3V +/- 3dB 75ohm, positive Sync.

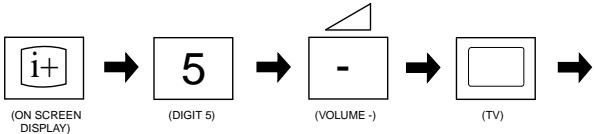
FE-2 SELF DIAGNOSTIC SOFTWARE

The identification of errors within the FE-2 chassis is triggered in one of two ways :- 1: Busy or 2: Device failure to respond to IIC. In the event of one of these situations arising the software will first try to release the bus if busy (Failure to do so will report with a continuous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED (Series of flashes which must be counted) See table 1., non fatal errors are reported using this method. Each time the software detects an error it is stored within the NVM. See Table 2.

Table 1

Error Message	LED Code
No error	00
Reserved	01
OCP (Over Current Protection)	02
Not Used	03
No Vertical Sync	04
IKR Error at power on	05
IIC bus clock and/or data lines low at power on	06
NVM no IIC bus acknowledge at power on	07
Not Used	08
Tuner no acknowledge at power on	09
Sound Processor Error	10
Jungle controller 8 volts error	11

How to enter into Table 2

1. Turn on the main power switch of the TV set and enter into the 'Standby Mode'.
2. Press the following sequence of buttons on the Remote Commander.
 
3. The following table will be displayed indicating the error count.

Flash Timing Example : e.g. error number 3

StBy LED

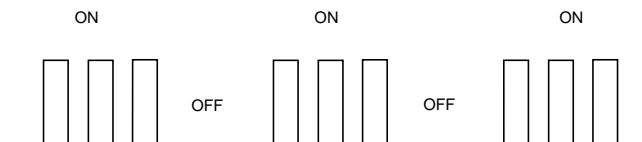


Table 2

ERROR MENU				
E02	OCP	(0, 255)	0	
E03	OVP N/A	(0, 255)	0	
E04	VSYNC	(0, 255)	0	
E05	IKR	(0, 255)	0	
E06	IIC	(0, 255)	0	
E07	NVM	(0, 255)	0	
E08	JUNGLE	(0, 255)	0	
E09	TUNER	(0, 255)	0	
E10	SOUND P	(0, 255)	0	
E11	8V	(0, 255)	0	
WORKING TIME				
	HOURS		2	
	MINUTES			11

Note: To clear the error count data press '80' on the Remote commander.

SECTION 1 GENERAL

The operating instructions mentioned here are partial abstracts from the 'Operating Instruction Manual'. The page numbers of the 'Operating Instruction Manual' remain as in the manual.

Switching On the TV and Automatically Tuning

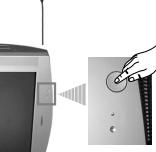
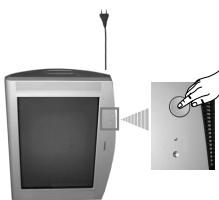
1 The first time you switch on your TV, a sequence of menu screens appear on the TV enabling you to: 1) choose the language of the menu screen, 2) choose the country in which you wish to operate the TV, 3) adjust the picture slant 4) search and store all available channels (TV Broadcast) and 5) change the order in which the channels (TV Broadcast) appear on the screen.

However, if you need to change any of these settings, you can do that by selecting the appropriate option in the  (Set Up menu) or by pressing the Auto Start Up Button  on the TV set.

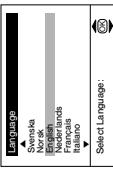
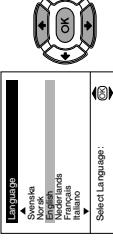
1 Connect the TV plug to the mains socket (220-240V AC, 50Hz).

Press the  on/offbutton on the TV set to turn on the TV.

The first time you press this button, a Language menu displays automatically on the TV screen.



2 Press the  or  button on the remote control to select the language. Then press the  button to confirm your selection. From now on all the menus will appear in the selected language.



3 The Country menu appears automatically on the TV screen. Press the  or  button to select the country in which you will operate the TV set, then press the  button to confirm your selection.

a) If the country in which you want to use the TV set does not appear in the list, select “-” instead of a country.

4 Because of the earth's magnetism, the picture might slant. The Picture Rotation menu allows you to correct the picture slants if it is necessary.

- a) If it is necessary, press  or  to select **Not necessary** and press .
- b) If it is necessary, press  or  to select **Adjust now**, then press  and +5by pressing  or . Finally press  to store.

5 The Auto Tuning menu appears on the screen. Press the  button to select **Yes**.



6 The TV starts to automatically search and store all available channels (TV Broadcast) for you.

⚠ This procedure could take some minutes. Please be patient and do not press any button. Otherwise the automatic tuning will not be completed.



⚠ In the case that any channel have been found after the auto tuning process is completed, a new menu appears automatically on the screen asking you to connect the aerial. Please connect the aerial (see page 6) and press . The auto tuning process will start again.

7 **①** After all available channels are captioned and stored, the Programme Sorting menu appears automatically on the screen enabling you to change the order in which the channels appear on the screen.

a) If you do not wish to change the channel order, go to step 8.

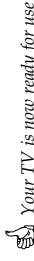
b) If you wish to change the channel order:

- 1 Press the  or  button to select the programme number with the channel (TV Broadcast) you wish to rearrange, then press the  button.
- 2 Press the  or  button to select the new programme number position for your selected channel (TV Broadcast), then press .
- 3 Repeat steps b1 and b2 if you wish to change the order of the other channels.



MENU

8 Press the  button to remove the menu from the screen.

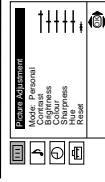


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Introducing and Using the Menu System

Your TV uses an on-screen menu system to guide you through the operations. Use the following buttons on the Remote Control to operate the menu system:

Level 1



1 Press the MENU button to switch the first level menu on.



2 • To highlight the desired menu or option, press **↓** or **↑**.



• To enter to the selected menu or option, press **OK**.

• To return to the last menu or option, press **OK**.

• To alter settings of your selected option, press **↓** / **↑** / **←** / **→** or **OK**.

• To confirm and store your selection, press **OK**.

3 Press the MENU button to remove the menu from the screen.



Level 2



To do that: after selecting the option press **↑** then press **↓** or **→** to set the time period delay (max. of 4 hours) and finally press **OK** to store.

- While watching the TV, you can press the **OK** button on the remote control to display the time remaining.
- One minute before the TV switches itself into standby mode, the time remaining is displayed on the TV screen automatically.

Level 3 / Function

SLEEP TIMER

The "Sleep Timer" option in the "Timer" menu allows you to select a time period for the TV to switch itself automatically into the standby mode.



To do that: after selecting the option press **↑** then press **↓** or **→** to set the time period delay (max. of 4 hours) and finally press **OK** to store.

- While watching the TV, you can press the **OK** button on the remote control to display the time remaining.
- One minute before the TV switches itself into standby mode, the time remaining is displayed on the TV screen automatically.

LANGUAGE / COUNTRY

The "Language/Country" option in the "Set Up" menu allows you to select the language that the menus are displayed in. It also allows you to select the country in which you wish to operate the TV set.



To do that: after selecting the option, press **↑** and then proceed in the same way as in the steps 2 and 3 of the section "Switching On the TV and Automatically Tuning".



AUTO TUNING

The "Auto Tuning" option in the "Set Up" menu allows you to automatically search for and store all available TV channels.



To do that: after selecting the option, press **↑** and then proceed in the same way as in TV steps 5 and 6 of the section "Switching On the TV and Automatically Tuning".



continued...

- Brightness, Colour and Sharpness can only be altered if "Personal" mode is selected.

• Hue is only available for NTSC colour signal e.g. USA video tapes.

- Select Reset and press OK to reset the picture to the factory preset levels.

Level 1	Level 2	Level 3 / Function
RGB CENTRING When connecting an RGB source, such as a "PlayStation", you may need to readjust the horizontal position of the picture. In that case, you can readjust it through the "RGB Centring" option in the "Detail Set Up".	 	To do that, while watching an RGB source select the "RGB Centring" option and press ► . Then press ▼ or ▲ to adjust the centre of the picture between -10 and +10. Finally press OK to confirm and store.
PICTURE ROTATION Because of the earth's magnetism, the picture might slant. In this case, you can correct the pictures slant by using the option "Picture Rotation" in the "Detail Set Up" menu.	 	To do that, after selecting the option, press ► . Then press ▼ or ▲ to correct any slant of the picture between -5 and +5 and finally press OK to store.

Teletext

① Teletext is an information service transmitted by most TV stations. The index page of the teletext service (usually page 100) gives you information on how to use the service. To operate teletext, use the remote control buttons as indicated below.

⚠ Make sure to use a channel (TV Broadcast) with a strong signal, otherwise teletext errors may occur.



GB

To Switch On Teletext :

After select the channel (TV Broadcast) which carries the teletext you wish to view, press **③**.

To Select a Teletext page:

Input 3 digits for the page number, using the numbered buttons.

- If you have made a mistake, retype the correct page number.
- If the counter on the screen continues searching, it is because this page is not available. In that case, input another page number

To access the next or preceding page:
Press PROGR + (**①**) or PROGR - (**②**).

To superimpose teletext on to the TV:
Whilst you are viewing teletext, press **③**. Press it again to cancel teletext mode.

To freeze a teletext page:
Some teletext pages have sub-pages which follow on automatically. To stop them, press **④** / **⑤**. Press it again to cancel the freeze.

To reveal concealed information (e.g. answer to a quiz):
Press **⑥** / **⑦**. Press it again to conceal the information.

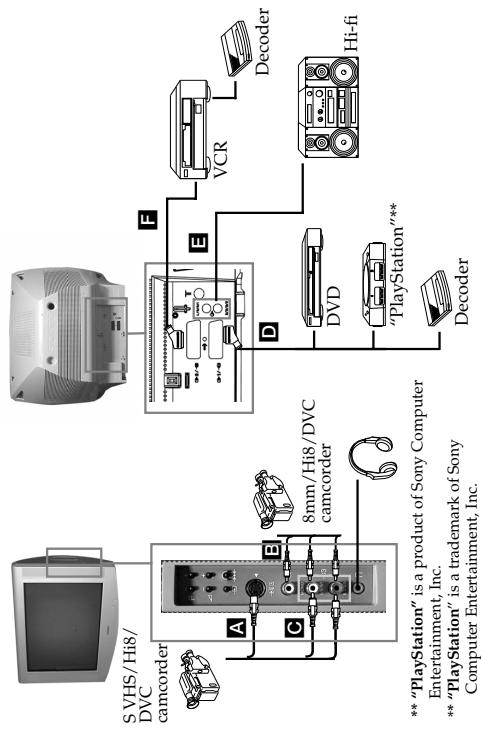
To Switch Off Teletext:
Press **⑧**.

Fastext

① Fastext service lets you access pages with one button push.
While you are in Teletext mode and Fastext is broadcast, a colour coded menu appears at the bottom of the teletext page. Press the colour button (red, green, yellow or blue) to access the corresponding page.

Connecting Optional Equipment

① Using the following instructions, you can connect a wide range of optional equipment to your TV set. (Connecting cables are not supplied).



Specifications 29LS30

TV system:	B/G/H, D/K	Sound Output:	2 x 14 W (music power) 2 x 7 W (RMS)
Colour system:	PAL, SECAM	Woofer:	20 W (music power) 10 W (RMS)
NTSC 3.58, 4.43 (only Video In)			
Channel Coverage:		Power Consumption:	94 W
VHF: E2-E12		Standby Power Consumption:	0.5 W
UHF: E21-E69		Dimensions (W x h x d):	Approx. 771 x 592 x 553 mm.
CATV: S1-S20		Weight:	Approx. 49 Kg.
HYPER: S21-S41		Accessories supplied:	1 Remote Control (RM-887) 2 Batteries (IEC designated)
D/K: R1-R12, R21-R69		Other features:	• Teletext, Fastext, TOPtext • Sleep Timer • Smartlink (direct link between your TV set and a compatible VCR. For more information on Smartlink, please refer to the Instruction Manual of your VCR). • TV system Autodetection.
Picture Tube:	Flat Display FD Trinitron	Rear Terminals	21-pin scart connector (CENELEC standard) including audio/video input, RGB input, TV audio/video output.
	29" (approx. 73 cm. measured diagonally)	②/④ (SMARTLINK)	21-pin Scart connector (CENELEC standard) including audio / video input, S video input, selectable audio / video output and Smartlink interface.
Front Terminals		④	audio outputs (Left/Right) - phono jacks
④ 3 S Video input - 4 pin DIN			
④ 3 video input - phono jack			
④ 3 audio input - phono jacks			
④ headphones jack			

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① Select the "Manual Programme Preset" option in the "Set Up" menu and after entering in the "Decoder" option, select "On" (by using \blacktriangle or \blacktriangledown). Repeat this option for each scrambling signal.
*This option is only available depending on the country you have selected in the "Country" menu.

continued...

Specifications 29LS35

Troubleshooting

① Here are some simple solutions to the problems which may affect the picture and sound.

TV system:	B/G/H, D/K
Colour system:	PAL, SECAM NTSC 3.58, 4.43 (only Video In)
Channel Coverage:	VHF: E2-E12 UHF: E21-E69 CATV: S1-S20 HYPER: S21-S41 D/K: R1-R12, R21-R69
Picture Tube:	Flat Display FD Trinitron 29" (approx. 73 cm. measured diagonally)
Rear Terminals	<p>② 21-pin Scart connector (CENELEC standard) including audio/video input, RGB input, TV audio/video output.</p> <p>③ 21-pin Scart connector (CENELEC standard) including audio / video input, S video input, selectable audio / video output and Smartlink interface.</p> <p>④ audio outputs (Left/Right) - phono jacks</p>
Front Terminals	<p>⑤ 3 S Video input - 4 pin DIN</p> <p>⑥ 3 video input - phono jack</p> <p>⑦ 3 audio input - phono jacks</p> <p>⑧ headphones jack</p>

Design and specifications are subject to change without notice.

Ecological Paper- Totally Chlorine Free



- Using the menu system, select the "Set Up" menu.
- Then enter to "Detail Set Up" option and set "A/V Output" to "TV".
- The standby indicator ① on the TV flashes even though the "On Timer" function is not in use.
- Contact to your nearest Sony service centre.

- In case of problems, have your TV serviced by qualified personnel. Never open the casing yourself.

Problem	Solution
No picture (screen is dark) and no sound.	<ul style="list-style-type: none"> Check the aerial connection. Plug the TV in and press the ① button on the front of TV. If the standby indicator ① is on, press ①/⑥ button on the remote control.
Poor or no picture (screen is dark), but good sound.	<ul style="list-style-type: none"> Using the menu system, select the "Picture Adjustment" menu and select "Reset" to return to the factory settings.
No picture or no menu information from equipment connected to the Scart connector.	<ul style="list-style-type: none"> Check that the optional equipment is on and press the ② button repeatedly on the remote control until the correct input symbol is displayed on the screen.
Good picture, no sound.	<ul style="list-style-type: none"> Press the ② + / - button on the remote control. Check that "TV Speakers" is "On" on the "Sound Adjustment" menu.
No colour on colour programmes.	<ul style="list-style-type: none"> Using the menu system, select the "Picture Adjustment" menu and select "Reset" to return to the factory settings.
Distorted picture when changing programmes or selecting teletext.	<ul style="list-style-type: none"> Turn off any equipment connected to the Scart connector on the rear of the TV.
Wrong characters appear when viewing teletext.	<ul style="list-style-type: none"> Using the menu system, enter to the "Language/Country" menu and select the country in which you operate the TV set. For Cyrillic languages, we agree to select Russia country in the case that your own country does not appear in the list.
Picture slanted	<ul style="list-style-type: none"> Using the menu system, select the "Picture Rotation" option in the "Detail Set Up" menu to correct the picture slant.
Noisy picture when viewing a TV channel.	<ul style="list-style-type: none"> Using the menu system, select the "Manual Programme Preset" menu and adjust Fine Tuning (AFT) to obtain better picture reception. Using the menu system, select the "Noise Reduction" option in the "Detail Set Up" menu and select "On" to reduce the noise in the picture.
No unscrambling or unstable picture whilst viewing a scrambling channel with a decoder connected through the Scart connector ②/③.	<ul style="list-style-type: none"> Using the menu system, select the "Set Up" menu. Then enter to "Detail Set Up" option and set "A/V Output" to "TV".
Remote control does not function.	<ul style="list-style-type: none"> Replace the batteries.

SECTION 2 DISASSEMBLY

2-1. Rear Cover Removal



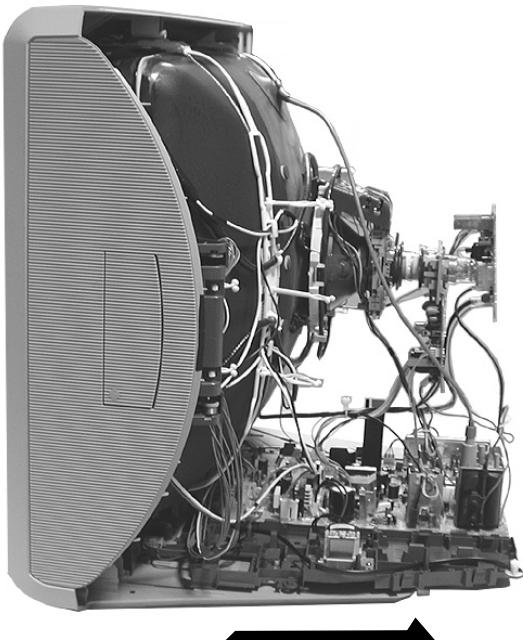
Release the mains power cable from its securing posts.
Remove the rear cover fixing screws indicated. Pull the rear cover away from the front beznet. Take care when removing the rear cover not to damage the speaker cables as speakers are fitted inside the rear cover.

2-2. Speaker Connector Disconnection

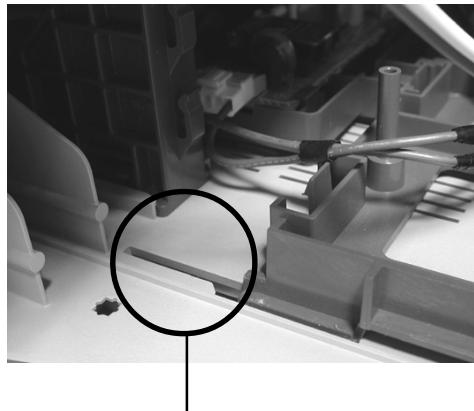


Before completely removing the rear cover disconnect the speaker connectors which are located on the inside base of the beznet.

2-3. Chassis Removal and Refitting

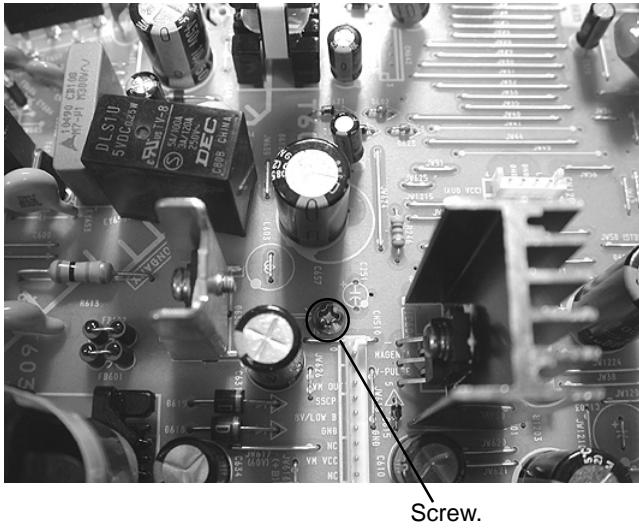


To remove lift the main bracket rear slightly and slide the chassis away from the beznet. Ensure that the interconnecting leads are released from their purse locks to prevent damage being caused.



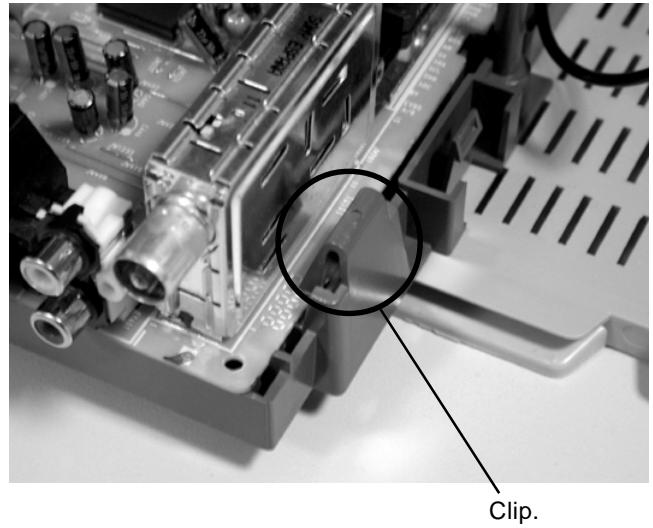
When refitting the chassis ensure that the main bracket is located in the beznet guide slots before sliding the chassis forwards. Refit the interconnecting leads in their respective purse locks.

2-4. A Board PWB Removal [Step 1]



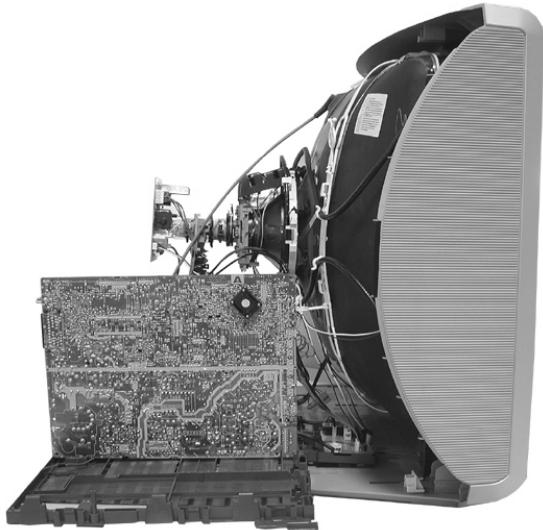
Remove the screw securing the PWB to the main bracket.

2-5. A Board PWB Removal [Step 2]



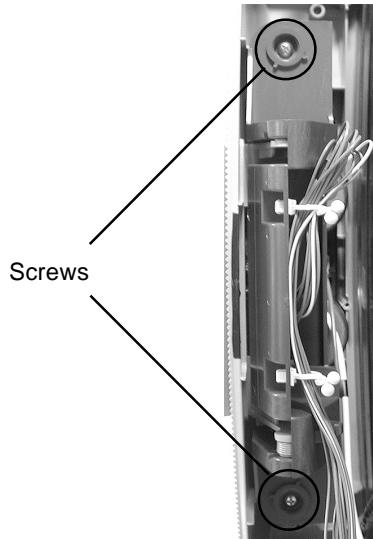
Release the 5 securing clips located at the side and front of the chassis and slide the PWB clear of the bracket.

2-6. Service Position



Place the A Board PWB in the position indicated to carry out servicing.

2-7. Side Control Module Removal

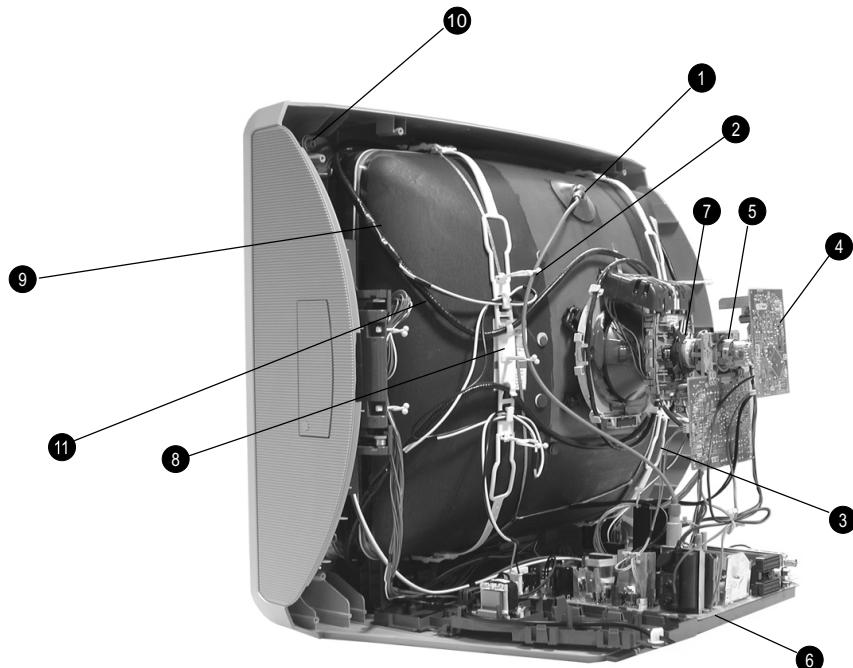
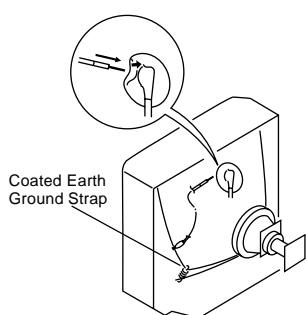


Remove the two screws fixing the user control module to the side of the set. The control module can then be removed by sliding it towards the rear of the set allowing access to the H2 Board.

2-8. Picture Tube Removal

WARNING: BEFORE REMOVING THE ANODE CAP

High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT **before** attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.

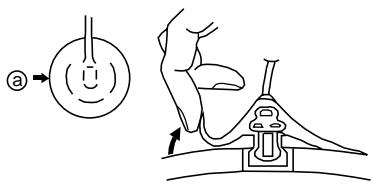


1. Discharge the anode of the CRT and remove the anode cap.
2. Release the EHT lead from its CRT support bracket.
3. Unplug all interconnecting leads from the Deflection yoke, degaussing coils, Rotation coil and CRT grounding strap.
4. Remove the C Board from the CRT.
5. Loosen the VM Block fixing screw and remove.
6. Remove the chassis assembly.
7. Loosen the Deflection yoke fixing screw and remove.
8. Remove the Degaussing Coil holders.
9. Place the set with the CRT face down on a cushion.
10. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT.
11. Remove the Degaussing Coils.

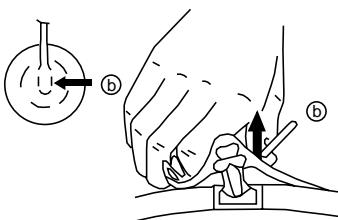
Remove the CRT grounding strap and spring tentioners.
[Take care not to handle the CRT by the neck.]

Removal of the Anode-Cap

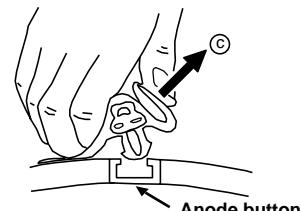
* REMOVING PROCEDURES.



① Turn up one side of the rubber cap in the direction indicated by the arrow (a)



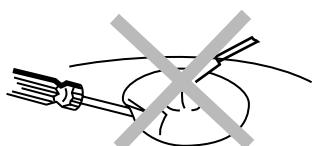
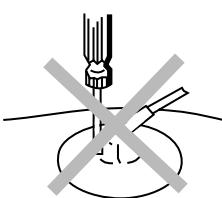
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow (b)



③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow (c)

How to handle the Anode-Cap

1. To prevent damaging the surface of the anode-cap do not use sharp materials.
2. Do not apply too great a pressure on the rubber, as this may cause damage to the anode connector.
3. A metal fitting called a shatter hook terminal is fitted inside the rubber cap.
4. Do not turn the rubber foot over excessively, this may cause damage if the shatter hook sticks out.



SECTION 3 SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to the following settings :

Contrast 80% [or remote control normal]

Brightness 50%

Carry out the adjustments in the following order :

- 3-1. Beam Landing.
- 3-2. Convergence.
- 3-3. Focus.
- 3-4. White Balance.

Note : Test equipment required.

1. Color bar/pattern generator.
2. Degausser.
3. Oscilloscope.
4. Digital multimeter.

Preparation:

1. In order to reduce the influence of geomagnetism on the set's picture tube, face it in an easterly or westerly direction.
2. Switch on the set's power and degauss with the degausser.

3-1. Beam Landing

1. Input an all white signal from the pattern generator. Set the Contrast and Brightness to normal.
2. Set the pattern generator raster signal to Red.
3. Move the deflection yoke forward and adjust with the purity control so that the Red is at the centre and the Blue and Green take up equally sized areas on each side of the screen. [See Fig.3-1 - 3-3].
4. Move the deflection yoke backwards and adjust so that the entire screen becomes Red. [See Fig.3-1]
5. Switch the raster signal to Blue, then to Green and verify the condition.
6. When the position of the deflection yoke has been determined, fasten the deflection yoke with the screws.
7. If the beam does not land correctly in all the corners, use a magnet to correct it. [See Fig.3-4]

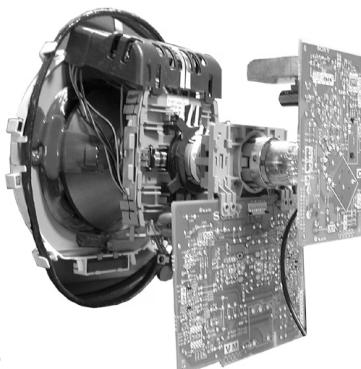


Fig. 3-1.

Fig. 3-2.

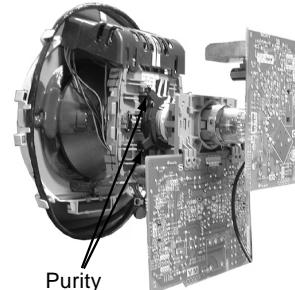


Fig. 3-3.

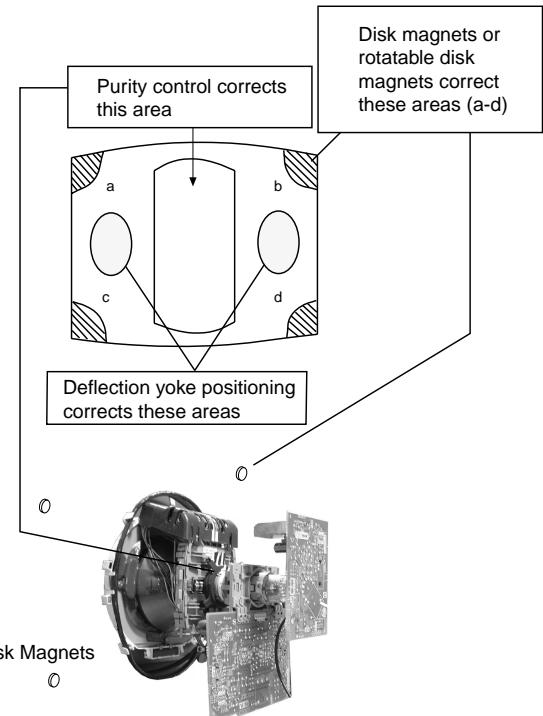
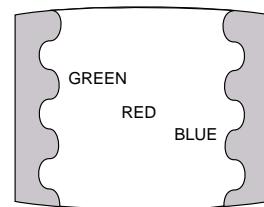


Fig.3-4

Caution :

High voltages are present on the Deflection yoke terminals - take care when handling the Deflection yoke whilst carrying out adjustments.

3-2. Convergence

Preparation:

- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Minimize the Brightness setting.
- Input a dot pattern from the pattern generator.

Horizontal and Vertical Static Convergence

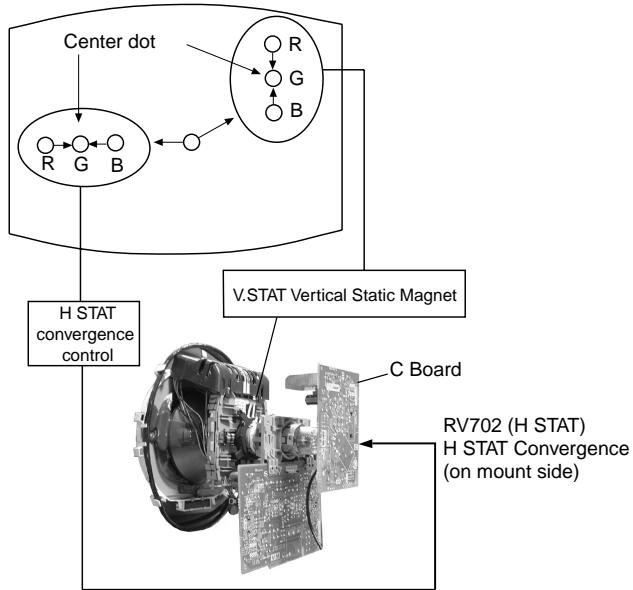
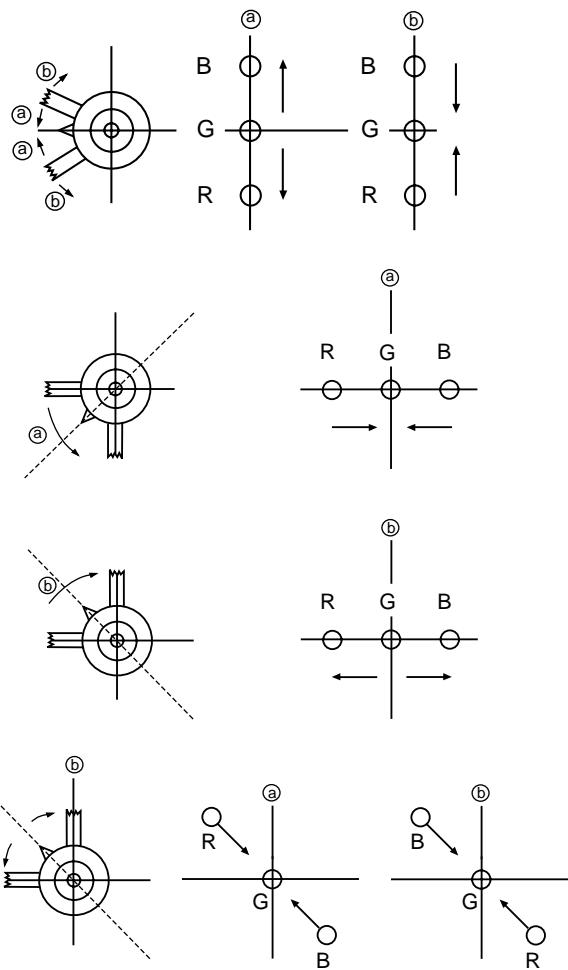


Fig.3-5

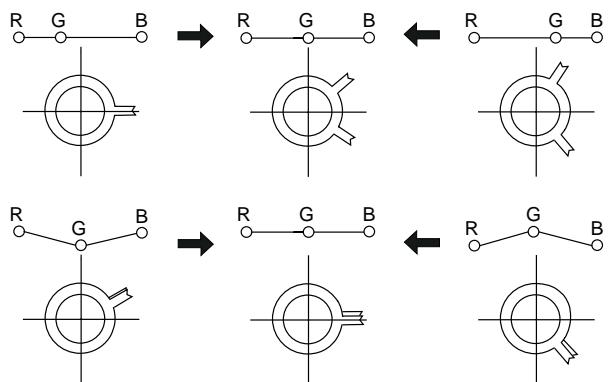
1. [Moving horizontally], adjust the H.STAT control so that the Red, Green and Blue points are on top of each other at the centre of the screen.
2. [Moving vertically], adjust the V.STAT magnet so that the Red, Green and Blue points are on top of each other at the centre of the screen.
3. If the H.STAT variable resistor is unable to bring the Red, Green and Blue points together at the centre of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner indicated below.
[In this case, the H.STAT variable resistor and the V.STAT magnet influence each other].

- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.

4. If the V.STAT magnet is moved in the direction of the (a) and (b) arrows, the Red, Green and Blue points move as indicated below.

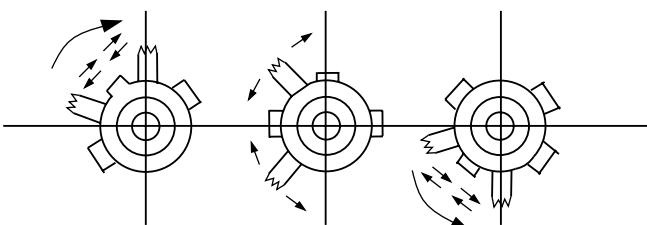


Operation of the BMC (Hexapole) magnet.



The movement of the magnets interact with each other and so the respective dot position should be monitored while carrying out this adjustment.

Use the H.STAT VR to adjust the Red, Green and Blue dots so that they coincide at the centre of the screen (by moving the dots in the horizontal direction).

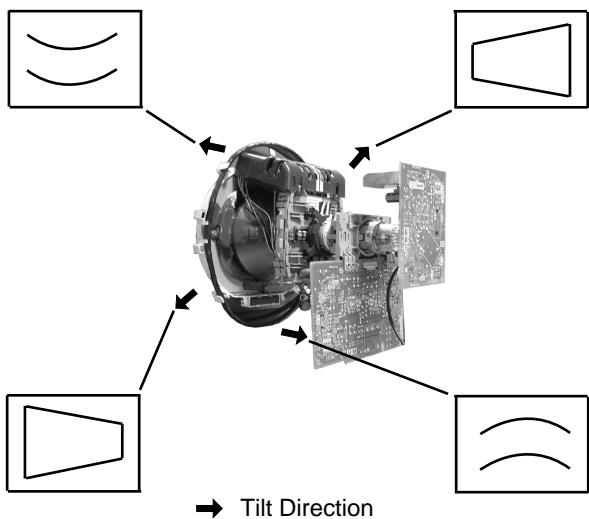


Geometry Adjustment.

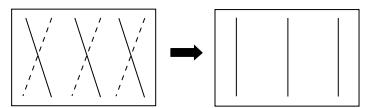
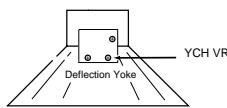
Preparation:

Before starting this adjustment, adjust the horizontal and vertical static convergence.

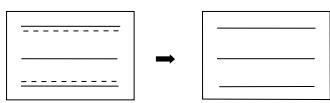
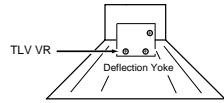
1. Remove the deflection yoke spacer.
2. Tilt the deflection yoke as indicated in the figure below and optimise the geometry.
Tilting the DY Up and Down will balance the upper and lower pin adjustment.
Tilting the DY Left and Right will balance the H-Trap adjustment.
3. Re-install the deflection yoke spacer.



YCH Adjustment

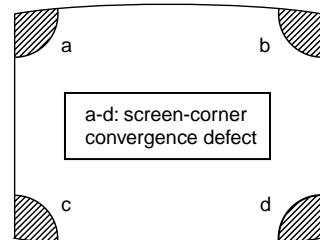


TLV Adjustment

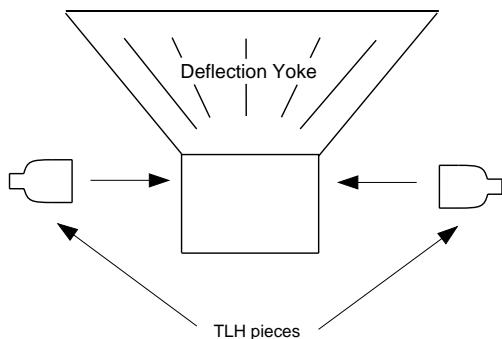


Screen Corner Convergence

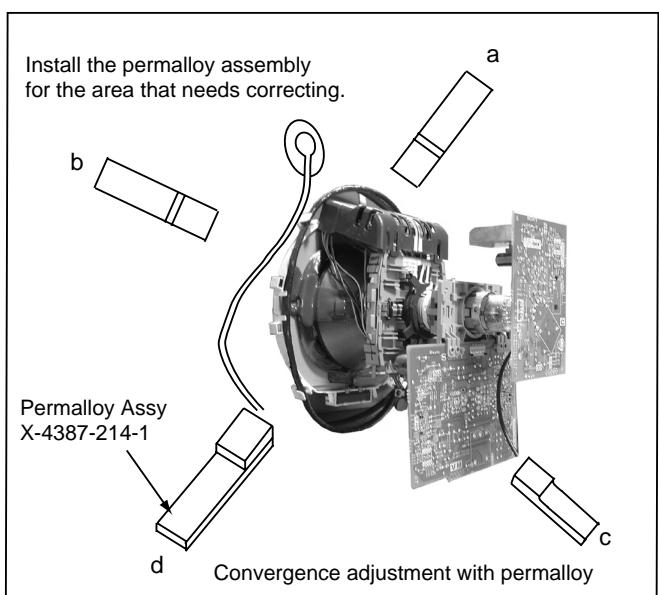
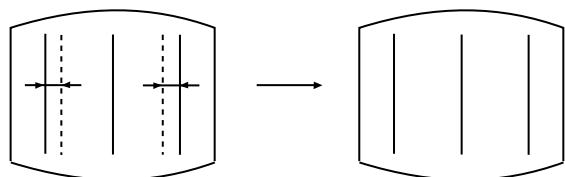
If you are unable to adjust the corner convergence properly, this can be corrected with the use of permalloy magnets.

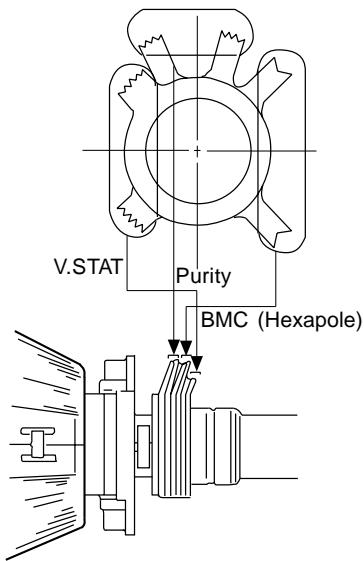


HTIL Adjustment



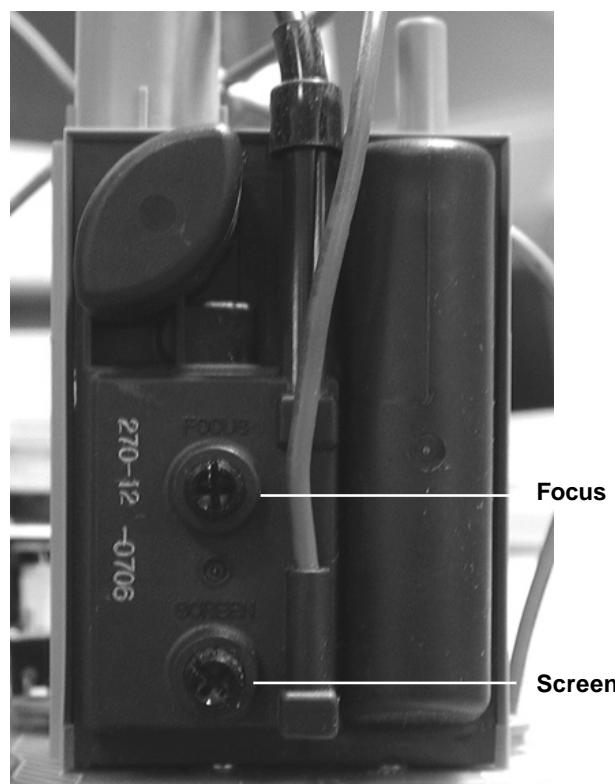
HTIL correction can be performed by adding a TLH correction assembly to the Deflection yoke.





3-3. Focus Adjustment

1. Receive a television broadcast signal.
2. Normalize the picture setting.
3. Adjust the focus control located on the flyback transformer to obtain the best focus at the centre of the screen. Bring only the centre area of the screen into focus, the magenta-ring appears on the screen. In this case, adjust the focus to optimize the screen uniformly.



[Adjustment in the service mode using the remote commander]

G2 adjustment

1. Input a dot signal from the pattern generator.
2. Enter the 'Service Mode' by pressing 'TEST', 'TEST' and '38' (TT-38) on the remote commander, to set up the G2 service adjustment mode.
3. Whilst watching the picture, adjust the G2 control [SCREEN] located on the Flyback Transformer to the point where the OSD menu indication shows "OK".

White balance adjustment for TV mode

1. Input an all-white signal from the pattern generator.
2. Enter into the 'Service Mode' by pressing 'TEST', 'TEST' and 'MENU' on the Service Commander.
3. Select 'Service' from the on screen menu display and press the right arrow button on the remote commander.
4. The 'Service' menu will appear on the screen.
[See Page 19]
5. Set the 'Contrast' to MAX.
6. Set the 'R-Drive' to 25.
7. Adjust the 'G-Drive' and the 'B-Drive' so that the white balance becomes optimum.
8. Press the 'OK' button to write the data for each item.
9. Set the 'Contrast' to MIN.
10. Adjust the 'G-Cutoff', and the 'R-Cutoff' with the left and right buttons on the remote commander so that the white balance becomes optimum.
11. Press the 'OK' button to write the data for each item.

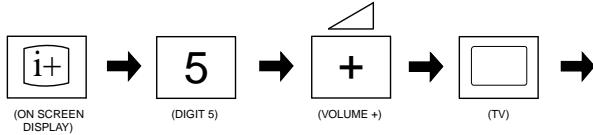
SECTION 4 CIRCUIT ADJUSTMENTS

4-1. Electrical Adjustments

Service adjustments to this model can be performed using the supplied remote Commander RM-887 (KV-29LS30) or RM-932 (KV-29LS35).

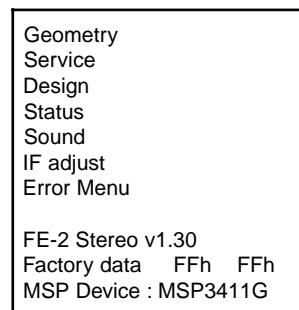
How to enter into the Service Mode

1. Turn on the main power switch and enter into the stand-by mode.
2. Press the following sequence of buttons on the Remote Commander.



‘TT—’ will appear in the upper right corner of the screen. Other status information will also be displayed.

3. Press ‘MENU’ on the remote commander to obtain the following menu on the screen.



4. Move to the corresponding adjustment item using the up or down arrow buttons on the Remote Commander.
5. Press the right arrow button to enter into the required menu item.
6. Press the ‘Menu’ button on the Remote Commander to quit the Service Mode when all adjustments have been completed.

Note :

- Before performing any adjustments ensure that the correct model has been selected in the ‘Model Setting’ menu.
- After carrying out the service adjustments, to prevent the customer accessing the ‘Service Menu’ switch the TV set OFF and then ON.

ERROR MENU			
E02	OCP	(0, 255)	0
E03	OVP N/A	(0, 255)	0
E04	VSYNC	(0, 255)	0
E05	IKR	(0, 255)	0
E06	IIC	(0, 255)	0
E07	NVM	(0, 255)	0
E08	JUNGLE	(0, 255)	0
E09	TUNER	(0, 255)	0
E10	SOUNDP	(0, 255)	0
E11	8V	(0, 255)	0
WORKING TIME			
HOURS		2	
MINUTES		11	

SERVICE

Offset-R	(0, 63)	Adj
Offset-G	(0, 63)	Adj
R-Drive	(0, 63)	25
G-Drive	(0, 63)	Adj
B-Drive	(0, 63)	Adj
Peak-Freq	(0, 3)	0
Luma-Delay	(0, 15)	8
SC0	(0, 3)	2
White-Peak	(0, 15)	15
Subcont	(0, 15)	4
Subright	(0, 63)	31
Subcol	(0, 63)	Adj
Subsharp	(0, 63)	31
Cutoff Br.	(0, 63)	60
Br OSD	(0, 15)	10
Br TXT	(0, 15)	9

GEOMETRY

V-Linearity	(0, 63)	Adj
V-Scroll	(0, 63)	32
Left-HBlk	(0, 15)	8
Right-HBlk	(0, 15)	6
V-Angle	(0, 63)	Adj
V-Bow	(0, 63)	Adj
H-Centre	(0, 63)	Adj
H-Size	(0, 63)	Adj
Pin-Amp	(0, 63)	Adj
U-Corner-Pin	(0, 63)	Adj
L-Corner-Pin	(0, 63)	Adj
Pin Phase	(0, 63)	Adj
V-Slope	(0, 63)	35
V-Size	(0, 63)	Adj
S-Correction	(0, 63)	Adj
V-Centre	(0, 63)	Adj
V-Zoom	(0, 63)	23
Magenta	(0, 63)	40

IF ADJUST

AGC Adjust	(-16, +15)	+0
Automute		1
Audio Gain		0
L Gating		0

Sub Brightness Adjustment

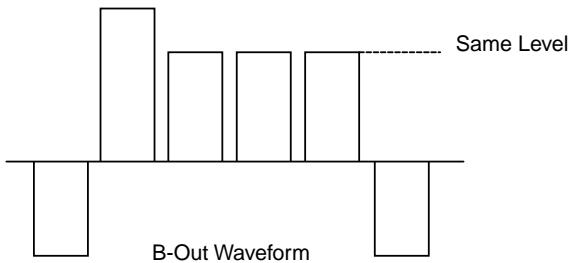
1. Input a Monoscope pattern.
2. Press ‘TEST’ ‘TEST’ 13 on the Remote Commander.
3. Adjust the ‘Sub-Brightness’ data so that there is barely a difference between the 0 IRE and 10 IRE signal levels.

Sub Contrast Adjustment

1. Input a video signal that contains a small 100% white area on a black background.
2. Connect an digital voltmeter to Pin 10 of J701 [C Board].
3. Adjust the Sub-Contrast [‘TT11’] to obtain a voltage of 105 +/- 5V.

Sub Colour Adjustment

1. Receive a PAL colour bar signal.
2. Connect an oscilloscope to Pin 5 of CN003 [A Board].
3. Enter into the 'Service' service menu.
4. Adjust the 'Sub Colour' data so that the Cyan, Magenta and Blue colour bars are of equal levels as indicated below.

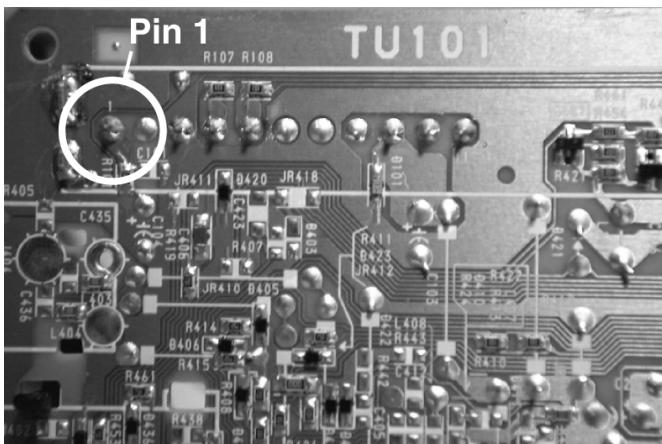


Tuner AGC Adjustment

Note:

There should be no need to adjust the AGC as this is pre-adjusted during manufacture of the FRONTEND. If the AGC does need adjustment then follow steps 1. to 4. below.

1. Receive a signal of 62dBuV / 75 ohm terminated via the tuner antenna socket.
2. Connect a voltmeter to pin1 of TU101 [print side of A Board] or to the AGC pin of CN001 [mount side of A Board].
3. Confirm that the AGC voltage is 3.5volts +/- 0.3volts.
4. If adjustment is required, then re-adjust the AGC variable resistor (located at the top rear of the FRONTEND) to obtain a voltage of 3.5V +/- 0.3V.



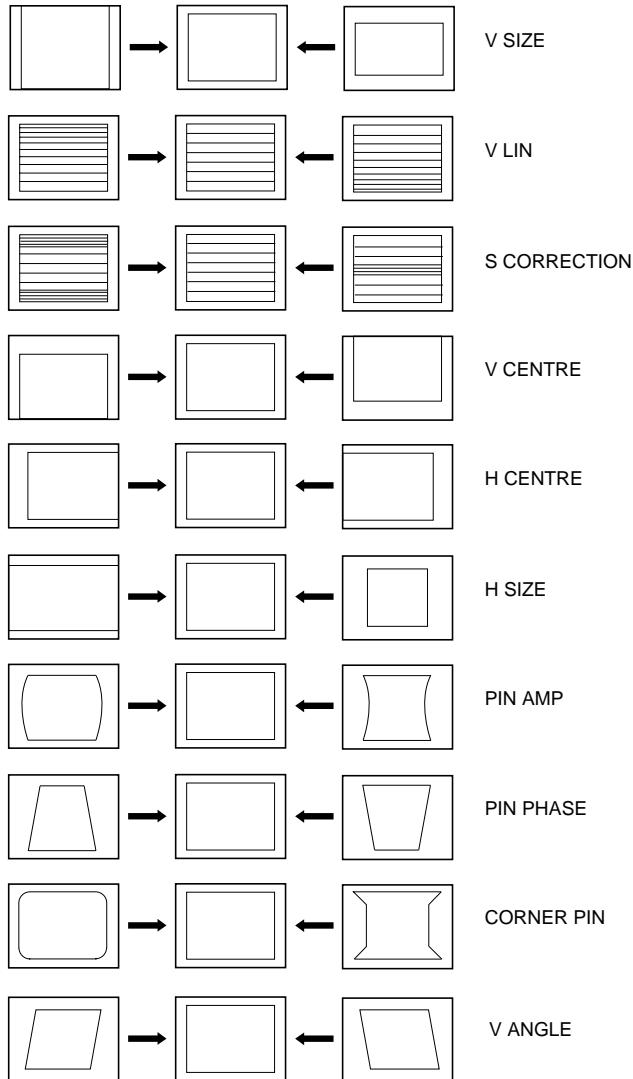
[Print side of A board]

Deflection System Adjustment

1. Enter into the 'Geometry' service menu.
2. Select and adjust each item in order to obtain the optimum image.

GEOMETRY

V-Linearity	(0, 63)	Adj
V-Scroll	(0, 63)	32
Left-HBlk	(0, 15)	8
Right-HBlk	(0, 15)	6
V-Angle	(0, 63)	Adj
V-Bow	(0, 63)	Adj
H-Centre	(0, 63)	Adj
H-Size	(0, 63)	Adj
Pin-Amp	(0, 63)	Adj
U-Corner-Pin	(0, 63)	Adj
L-Corner-Pin	(0, 63)	Adj
Pin Phase	(0, 63)	Adj
V-Slope	(0, 63)	35
V-Size	(0, 63)	Adj
S-Correction	(0, 63)	Adj
V-Centre	(0, 63)	Adj
V-Zoom	(0, 63)	23
Magenta	(0, 63)	40



4-2. TEST MODE 1:

Test Mode 1 is available by pressing the 'TEST' button once, OSD 'T' appears. The functions described below are available by selecting the indicated keys. The 'T' is released automatically after each command is executed.

KEY	T-MODE FUNCTION
volume +	volume maximum
volume -	Picture minimum
picture +	Picture maximum
picture -	Picture minimum
colour up	colour maximum
colour down	colour minimum
brightness - bright	brightness maximum
brightness - dark	brightness minimum
hue - purplish	hue - purplish
hue - greenish	hue - greenish
sharpness - sharp	sharpness maximum
sharpness - soft	sharpness minimum
balance left	balance full left
balance right	balance full right
treble up	treble maximum
treble down	treble minimum
bass up	bass maximum
bass down	bass minimum

4-3. TEST MODE 2:

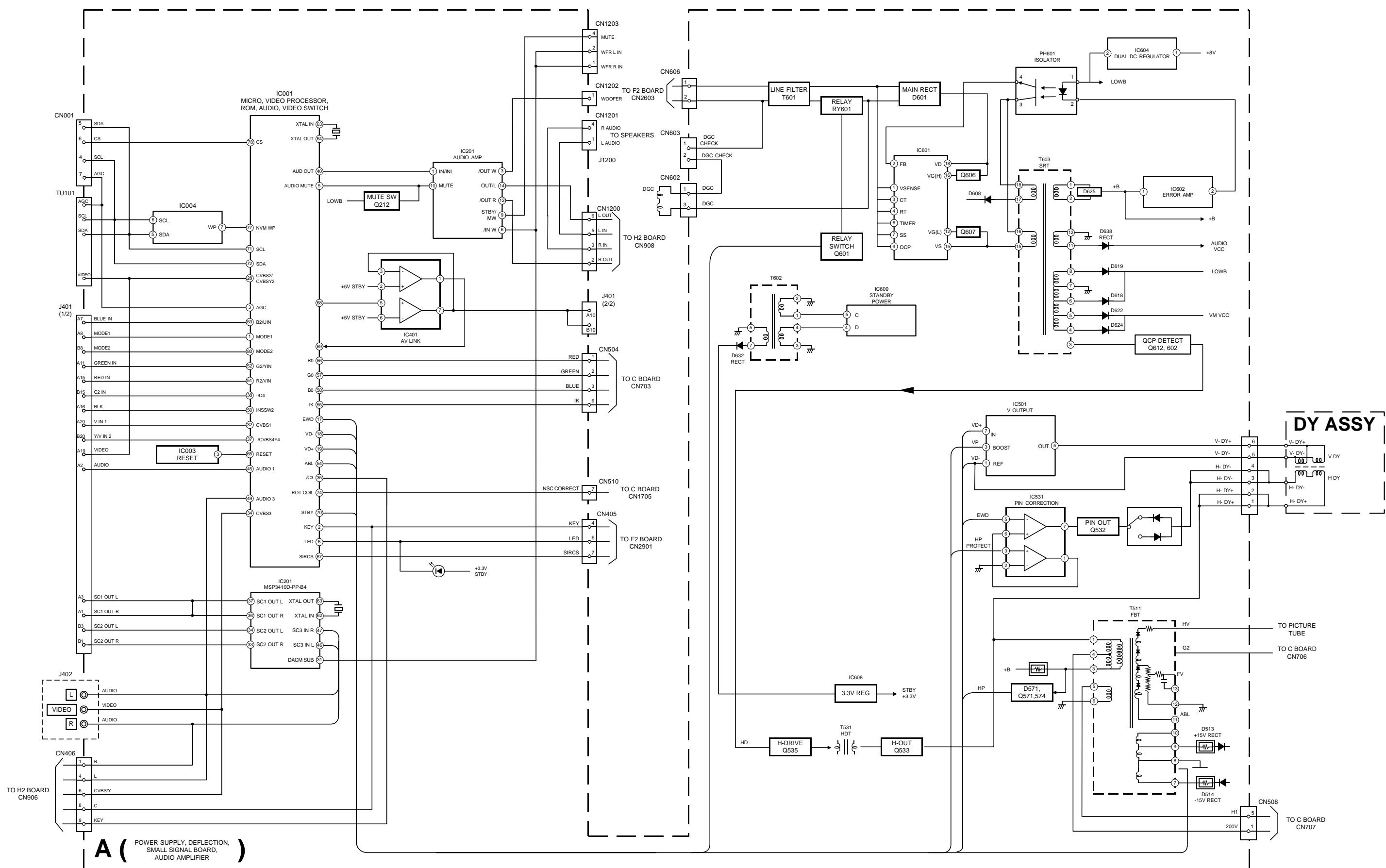
Test Mode 2 is available by pressing the 'TEST' button twice, OSD 'TT' appears. The functions described below are available by selecting the two numbers. To release the 'Test mode 2', press 00, 10, 20 ... twice or switch the TV set into Stand-by mode. In 'TT Menu' mode, it is possible to remove the Menu from the screen by pressing the Speaker Off button once. Pressing the Speaker OFF button a second time will cause the Menu to reappear. The function is kept even when the menu is not displayed on screen !!.

00	'TT' mode off
01	Picture maximum
02	Picture minimum
03	Set speaker/headphone Volume to 35%
04	Set speaker/headphone Volume to 50%
05	Set speaker/headphone Volume to 65%
06	Set speaker/headphone Volume to 80%
07	Ageing mode
08	Shipping Condition
11	Sub picture adjustment
12	Sub colour adjustment
13	Sub Brightness adjustment
14	Text H Position adjustment
15	Rotation Coil Test
16	Picture level 50%
19	Factory Mode Enable/Disable
21	Destination ADEKR
22	Destination BL
23	Destination ADEKR
24	Destination U
25	Destination ADEKR
26	Destination BL

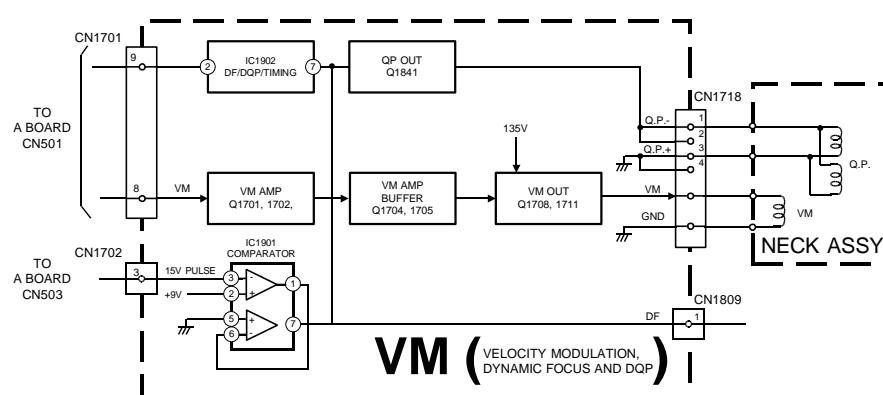
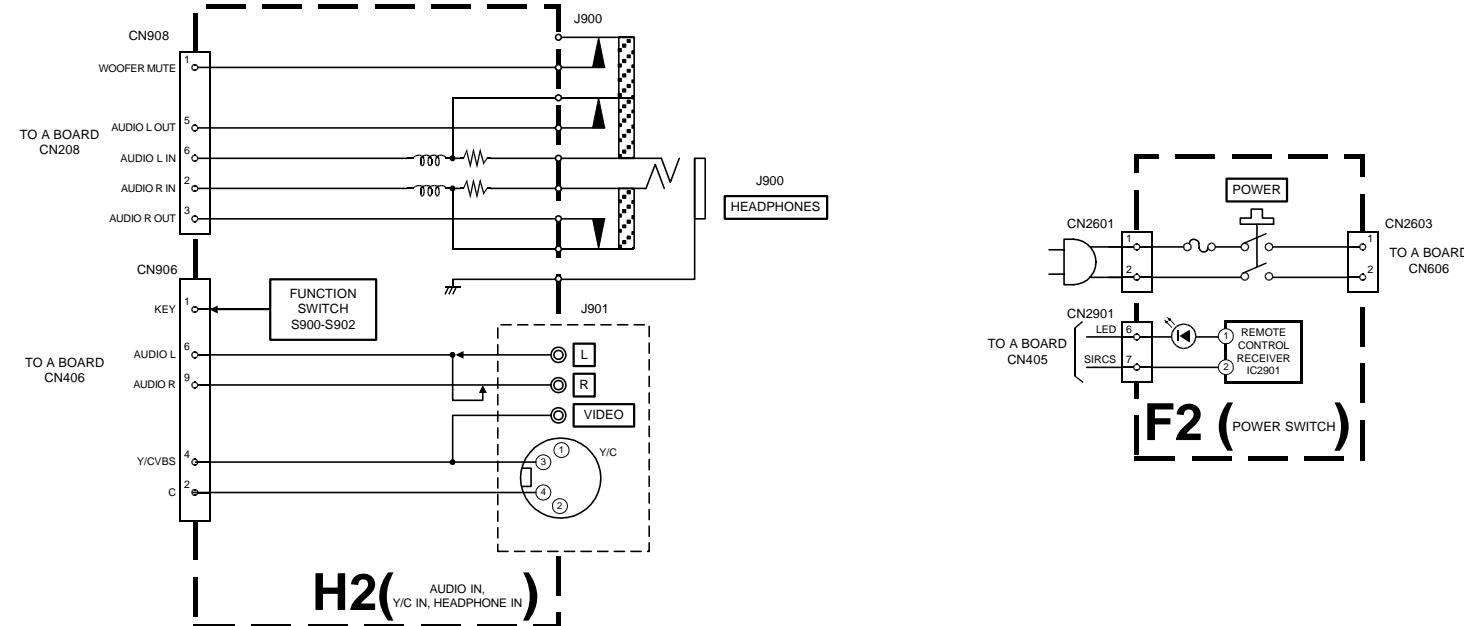
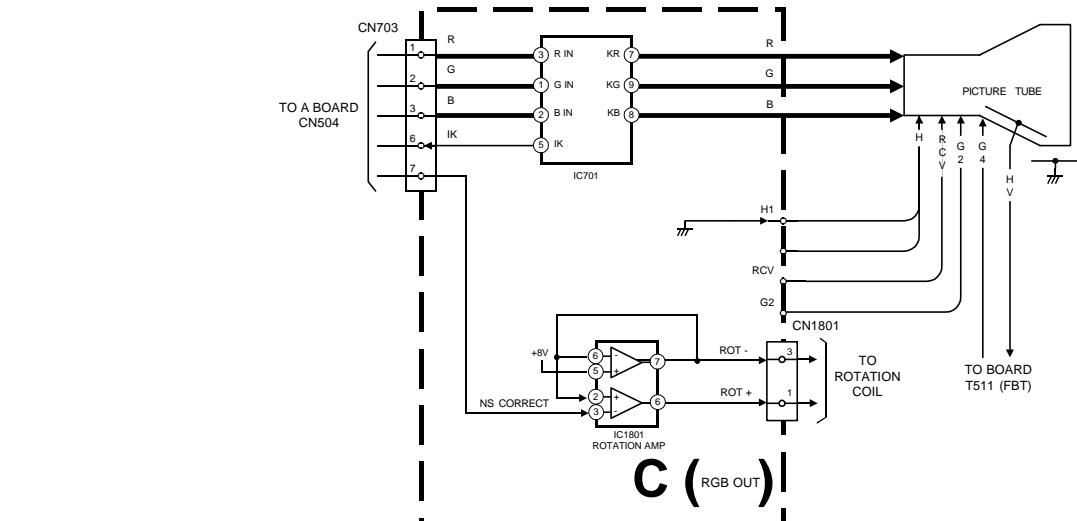
27	Destination ADEKR
28	Destination ADEKR
31	Auto Shutoff Enable/Disable
33	Rotation ON/OFF
35	CRT 4:3 <> 16:9 ; Display TV status
36	Velocity Modulation (VM) OFF/ON test
38	G2 adjustment
41	Re-initialise NVM
43	Select Dual A sound
44	Select Dual B sound
45	Select Mono sound
46	Select Stereo sound
48	Set NVM as non virgin
49	Set NVM as virgin
51	Virtual Dolby on/off
52	Subwoofer / MPB (Bass enhancement) Enable
54	Dot structure C/M (chroma trap)ination ADEKR
55	Tuner selection (SONY/ALPS)
56	BBE enable/disable
57	BBE menu line enable/disable
61	Auto AGC Adjustment
62	AM from baseband enable/disable
63	Enable/Disable YC3 connector
64	Enable/Disable RGB priority
65	RGB auto-detect enable/disable
66	On timer enable/disable
67	Manual AGC Adjustment
68	Enable/Disable X26 countermeasure (N problem)
69	Enable/Disable ACI feature
71	Force PAL video
72	Un-force PAL (restore normal video condition)
73	Enable Zweiton D/K2 system (6.5/6.74)
74	Enable Zweiton D/K3 system (6.5/5.74)
78	Balance full left
79	Balance full right
87	Local keys test
89	Enable/Disable watchdog
91	Set 14:9 zoom mode
92	Set SMART zoom mode
93	Set 16:9 zoom mode
94	Set ZOOM mode
95	Set 4:3 zoom mode
99	Display Error and Working Time menu

Memo

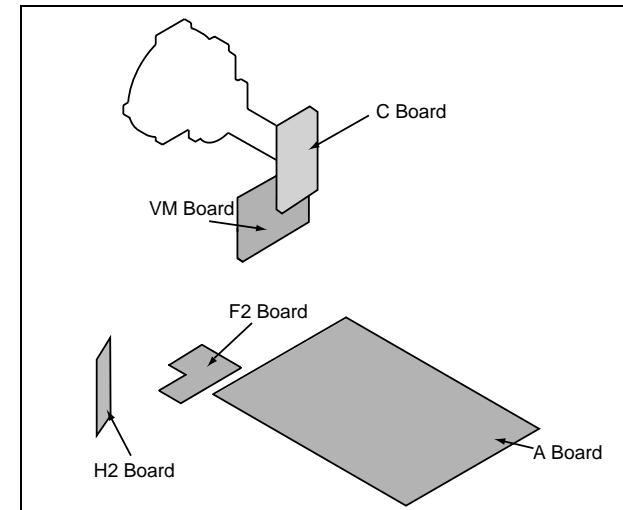
5-1. BLOCK DIAGRAMS (1)



5-1. BLOCK DIAGRAMS (2)



5-2. CIRCUIT BOARD LOCATION



Reference Information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NON FLAMMABLE CARBON
	FUSE	: NON FLAMMABLE FUSIBLE
	RS	: NON FLAMMABLE METAL OXIDE
	RB	: NON FLAMMABLE CEMENT
	RW	: NON FLAMMABLE WIREWOUND
	ADJ	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

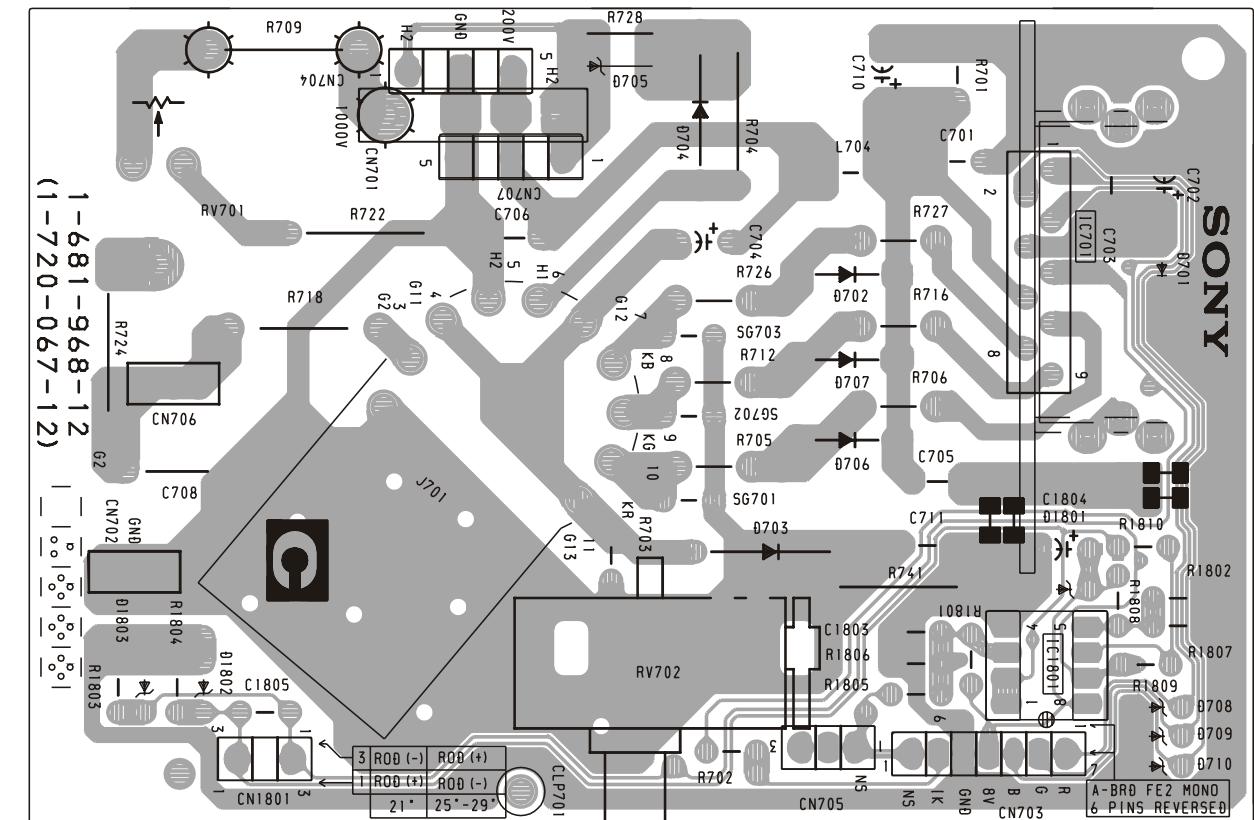
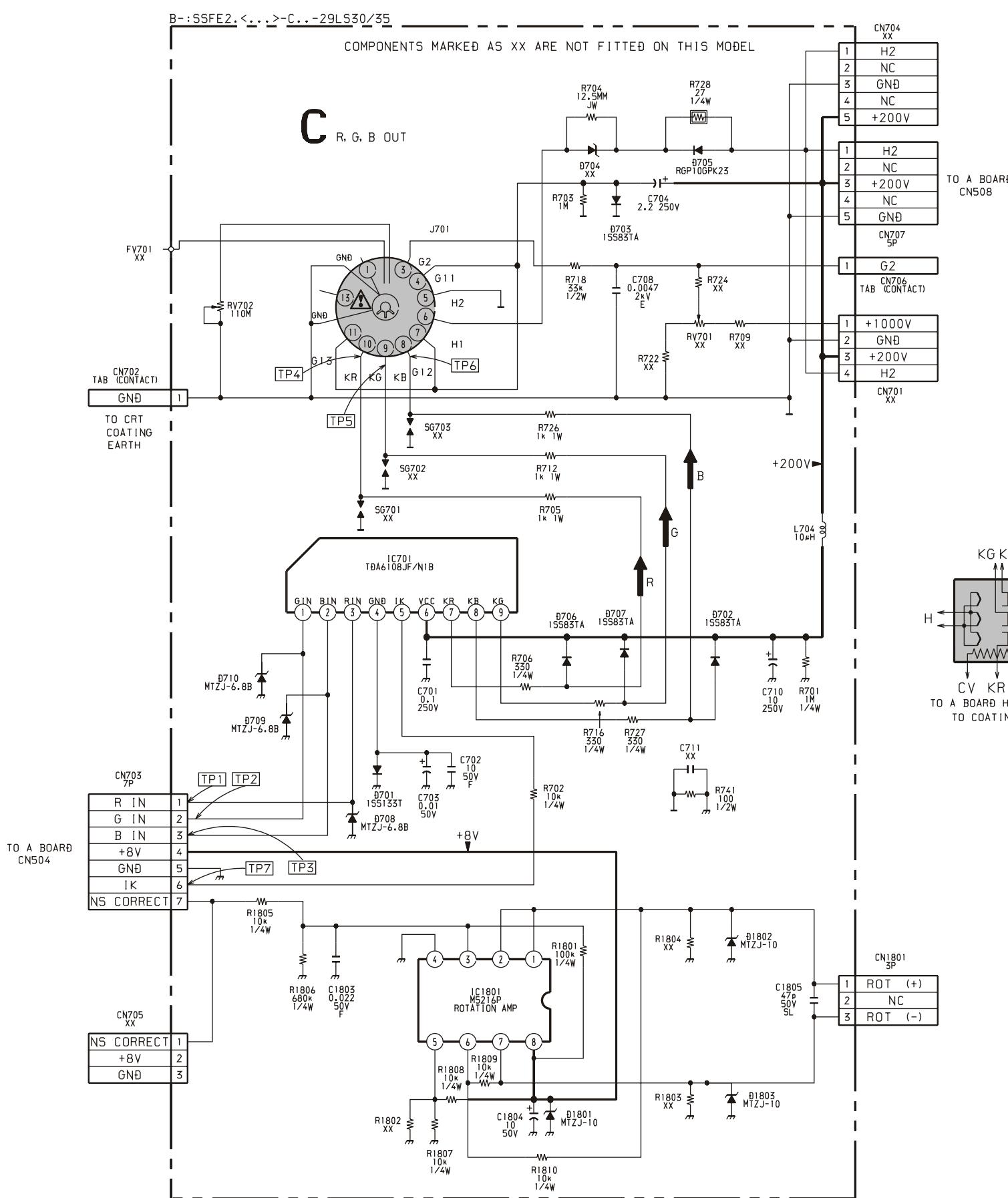
- All capacitors are in μ F unless otherwise noted.
- μ F : μ F 50WV or less are not indicated except for electrolytic types.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm
Electrical power rating : 1/4W

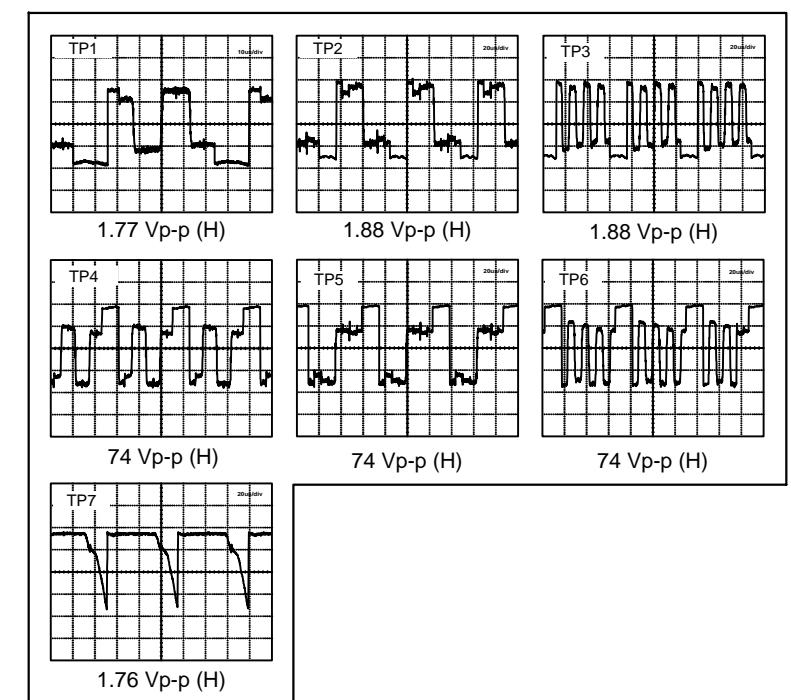
- Chip resistors are 1/10W
- All resistors are in ohms.
K = 1000 ohms, M = 1000,000 ohms
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in Volts.
- Readings are taken with a 10Mohm digital multimeter.
- Readings are taken with a color bar input signal.
- Voltage variations may be noted due to normal production tolerances.
- : B + bus.
- : B - bus.
- : RF signal path.
- : earth - ground.
- : earth - chassis.

Note : The components identified by shading and marked are critical for safety. Replace only with the part numbers specified in the parts list.

Note : Les composants identifiés par une trame et par une marque sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.



C Board Waveforms



IC Voltage Table

Ref No	Pin No	Voltage (V)	Ref No	Pin No	Voltage (V)
IC1701	1	3.1	IC1801	1	1.3
	2	2.1		2	1.3
	3	3.0		3	1.4
	5	5.5		5	4.1
	7	131		6	4.1
	8	123		7	7.0
	9	124.6		8	8.0

C [R,G,B OUT]

COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

VM VELOCITY MODULATION

TO A BOARD

CN501

CN1701

MAGENTA	10
V-PULSE	9
VM OUT	8
NS CORRECT	7
LOW B	6
GND	5
NC	4
VM VCC	3
NC	2
+135V	1

L1701 104H

IC1701 2SC212K

Q1701 2SC212K

9V REG

C1701 25V

R1701 10W

C1702 25V

R1702 10W

C1703 25V

R1704 10W

C1705 25V

R1706 10W

C1707 25V

R1708 10W

C1709 25V

R1710 10W

C1711 25V

R1712 10W

C1713 25V

R1714 10W

C1715 25V

R1716 10W

C1717 25V

R1718 10W

C1719 25V

R1720 10W

C1721 25V

R1722 10W

C1723 25V

R1724 10W

C1725 25V

R1726 10W

C1727 25V

R1728 10W

C1729 25V

R1730 10W

C1731 25V

R1732 10W

C1733 25V

R1734 10W

C1735 25V

R1736 10W

C1737 25V

R1738 10W

C1739 25V

R1740 10W

C1741 25V

R1742 10W

C1743 25V

R1744 10W

C1745 25V

R1746 10W

C1747 25V

R1748 10W

C1749 25V

R1750 10W

C1751 25V

R1752 10W

C1753 25V

R1754 10W

C1755 25V

R1756 10W

C1757 25V

R1758 10W

C1759 25V

R1760 10W

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C1793 25V

R1794 10W

C1795 25V

R1796 10W

C1797 25V

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R1792 10W

C1793 25V

R1794 10W

C1795 25V

R1796 10W

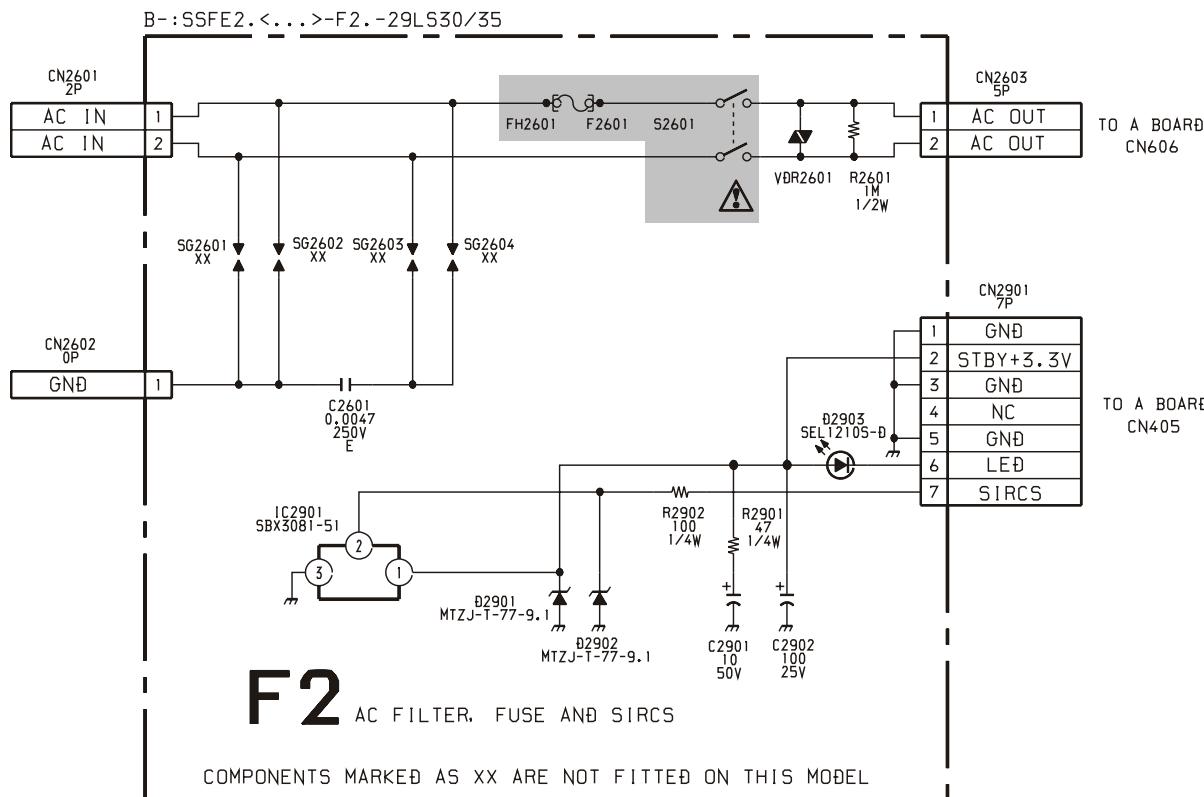
C1797 25V

R1798 10W

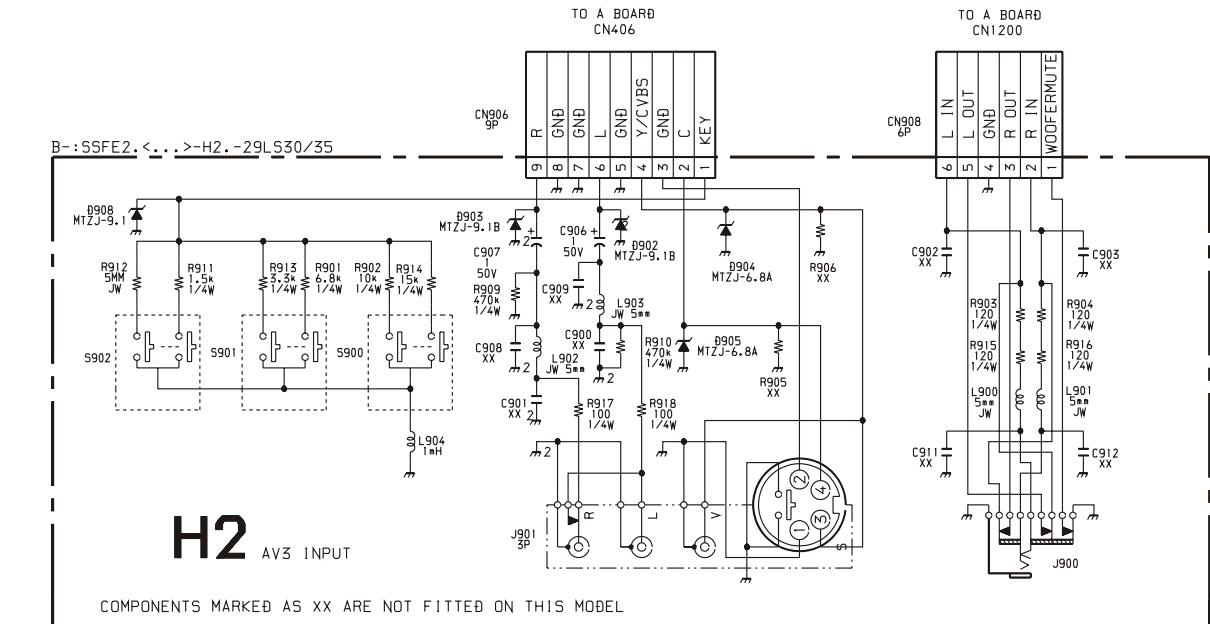
C1799 25V

R1790 10W

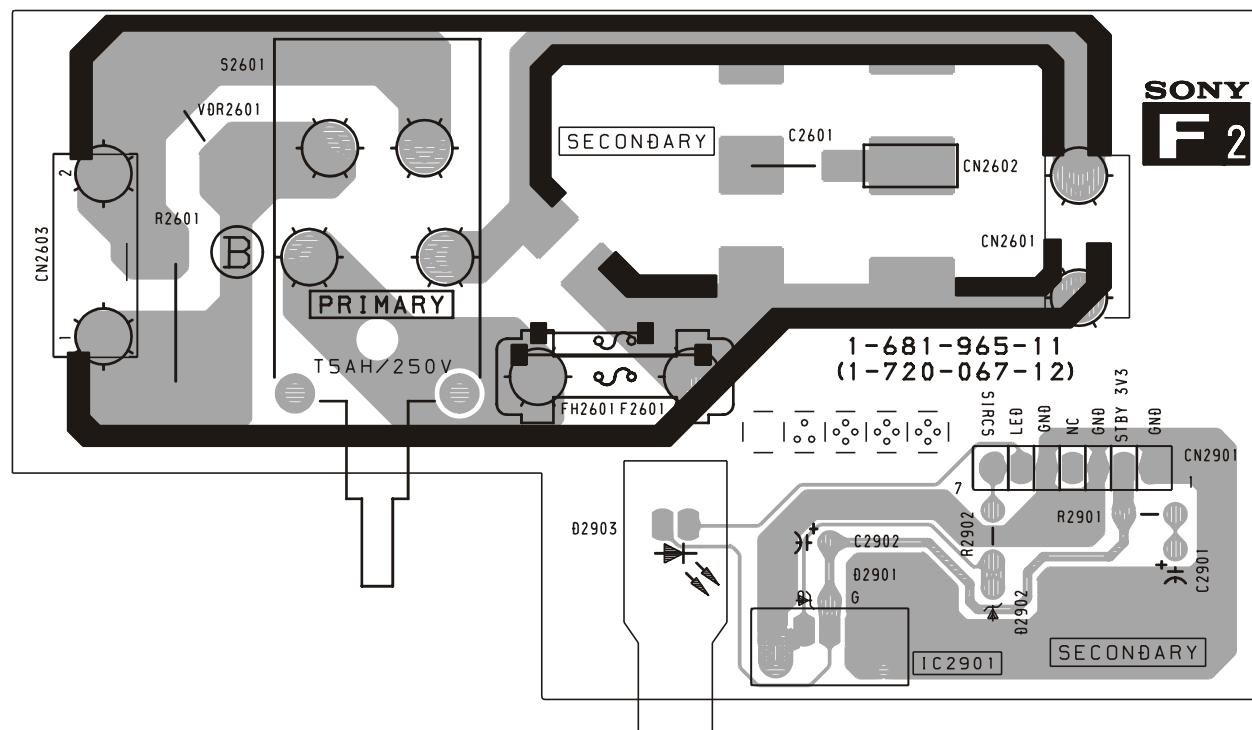
C1791 25V</div



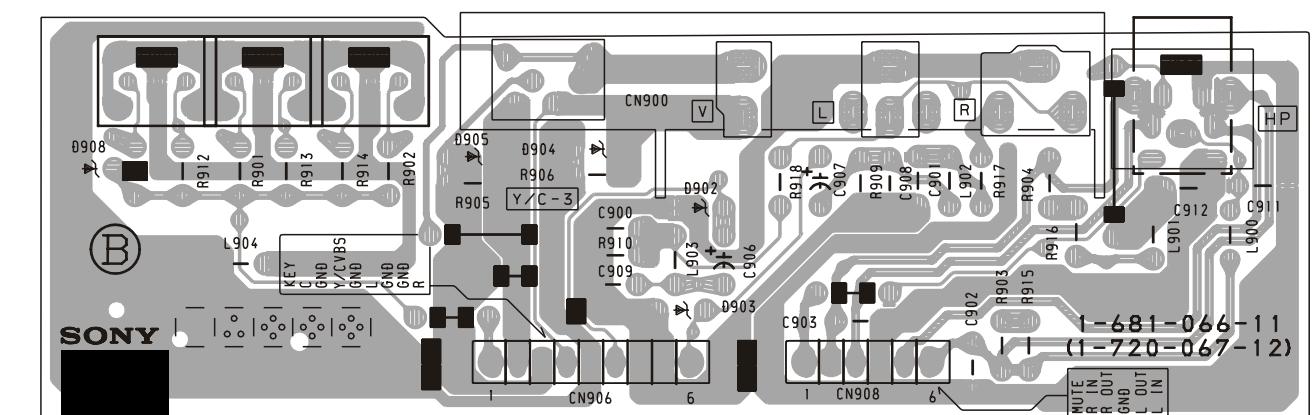
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL



COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

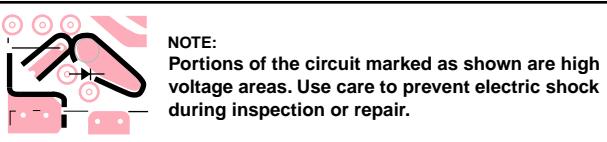
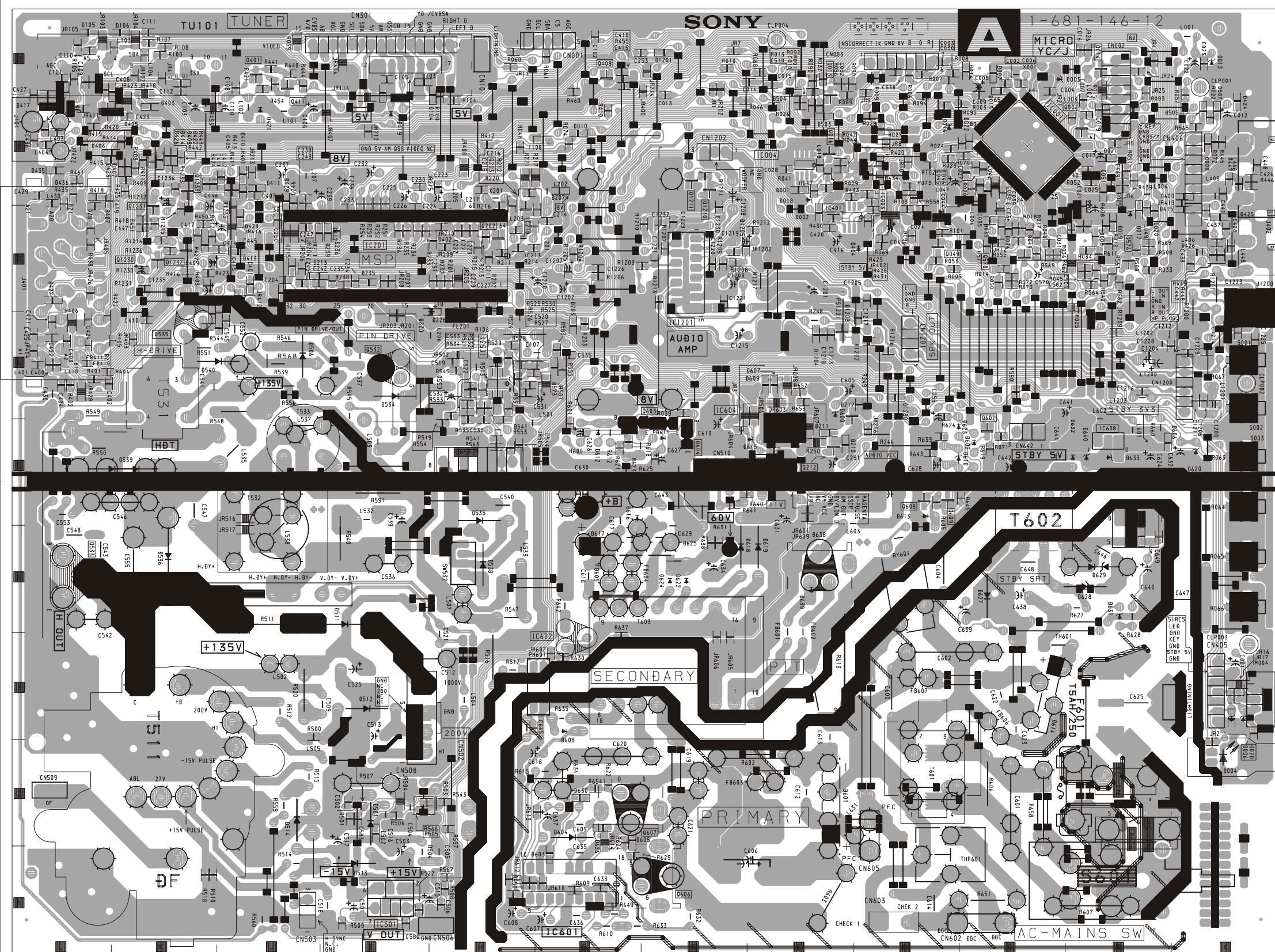


F2 [AC FILTER, FUSE, SIRCS]



H2 [AV3 INPUT]

A B C D E F G H I J K L M



A [PRINTED WIRING BOARD]

Semiconductor Location Table

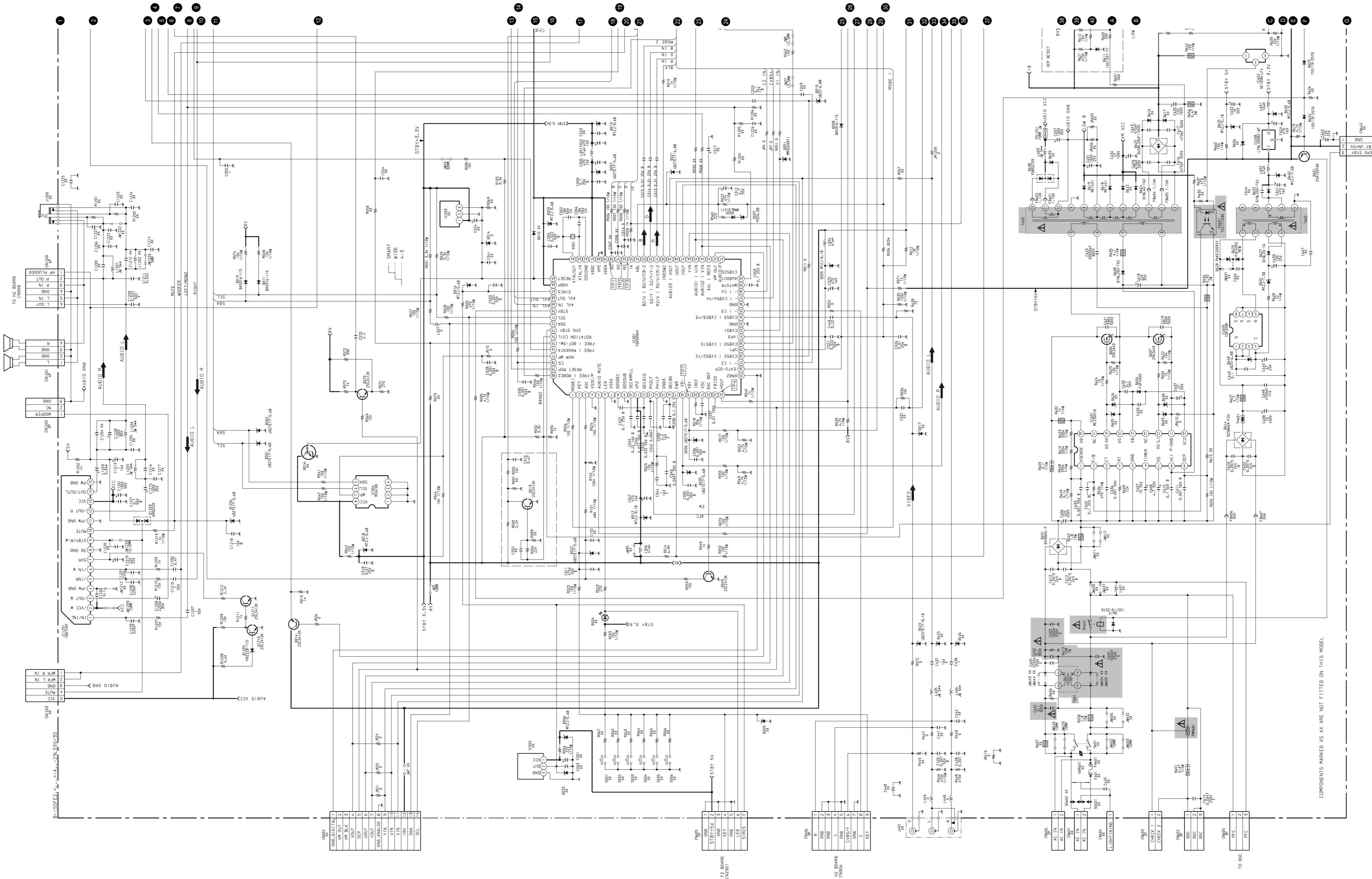
DIODE	D013	M - 1	D103	E - 1	D236	D - 3	D411	C - 3	D424	M - 2	D505	M - 2	D538	E - 6	D612	G - 5	D625	H - 6	TRANSISTOR	Q532	D - 4	Q609	J - 6	IC004	H - 2	
D001	I - 2		D016	J - 2	D104	E - 2	D239	D - 3	D412	D - 3	D506	D - 4	D539	B - 5	D613	J - 6	D627	K - 7	Q013	I - 3	Q533	A - 6	Q1210	H - 3		
D002	I - 3		D018	I - 3	D105	A - 1	D402	E - 3	D413	C - 3	D507	M - 2	D541	F - 5	D614	K - 8	D628	L - 7	Q014	L - 1	Q535	B - 4	Q1211	H - 3		
D003	K - 2		D020	M - 8	D106	B - 1	D403	B - 2	D414	B - 2	D512	D - 8	D573	F - 5	D615	H - 5	D629	L - 7	Q049	J - 3	Q601	K - 5	Q1230	B - 3		
D004	M - 4		D021	L - 2	D107	B - 2	D404	I - 3	D418	B - 3	D513	D - 9	D601	I - 9	D618	H - 6	D631	L - 7	Q202	E - 3	Q602	G - 5	Q1231	B - 3		
D006	M - 8		D022	J - 2	D207	F - 3	D405	B - 2	D419	E - 2	D514	C - 9	D602	J - 5	D619	H - 6	D632	K - 5	Q203	F - 2	Q603	G - 5	Q1232	B - 3		
D007	K - 1		D035	K - 3	D210	I - 5	D406	B - 2	D420	B - 2	D501	D - 9	D534	E - 5	D604	F - 9	D620	M - 5	Q212	I - 5	Q604	H - 5	Q1233	C - 2		
D008	L - 3		D036	K - 3	D211	I - 5	D407	B - 2	D421	C - 2	D502	D - 9	D535	E - 6	D608	F - 8	D621	J - 5	D638	I - 6	Q401	C - 1	Q606	G - 10	IC'S	
D010	G - 2		D051	L - 3	D212	I - 5	D408	B - 2	D422	C - 2	D503	I - 2	D536	B - 6	D610	J - 5	D622	H - 7	D640	L - 5	Q409	G - 1	Q607	K - 2	IC001	
D011	F - 2		D101	B - 1	D228	E - 4	D410	C - 2	D423	C - 2	D504	I - 2	D537	C - 4	D611	G - 5	D623	J - 5	Q411	D - 2	Q608	J - 6	IC002	M - 8	IC1201	H - 4

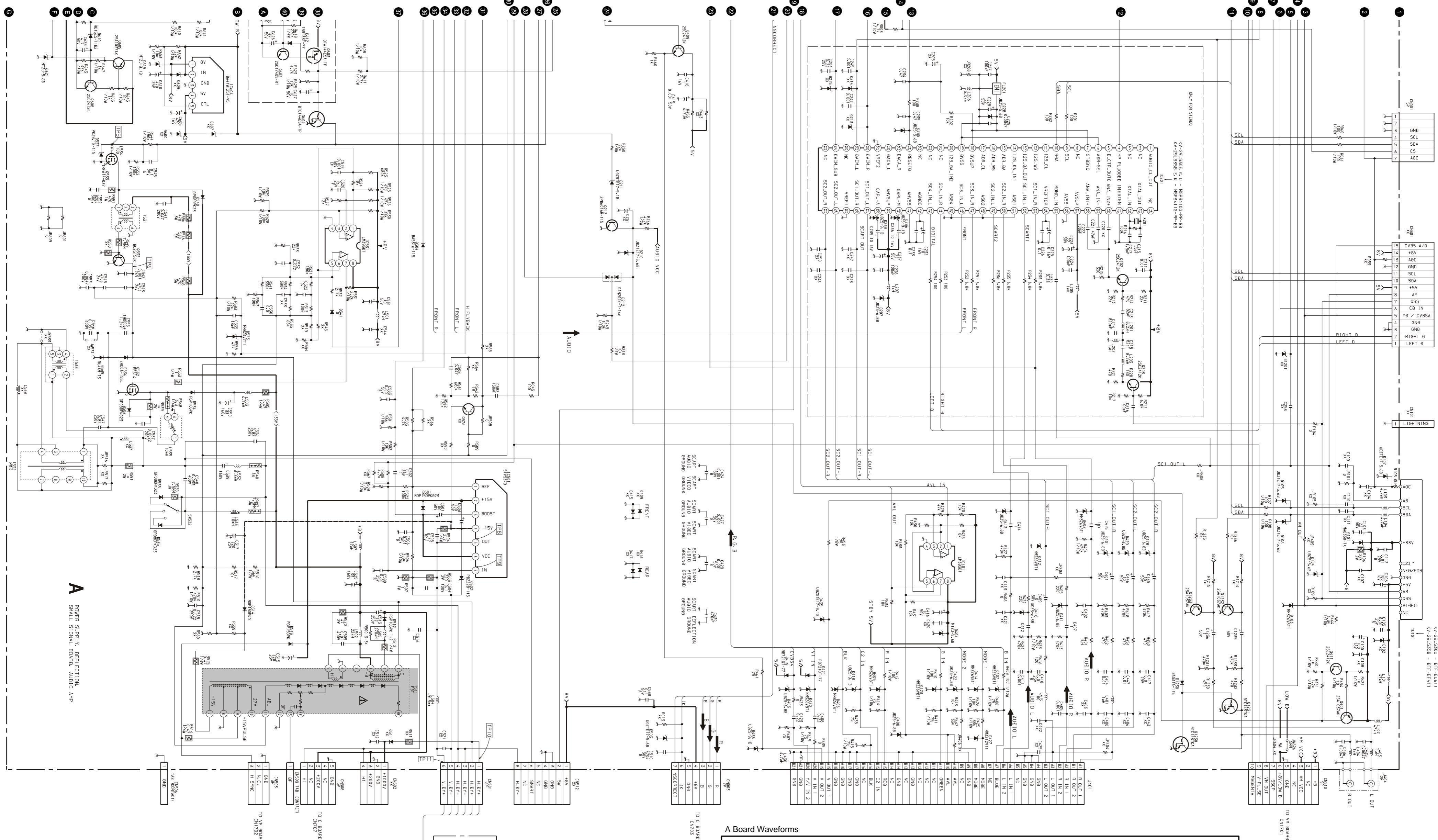
IC Voltage Table

Ref No	Pin No	Voltage (V)	Ref No	Pin No	Voltage (V)
	1	0		67	4.8
	2	3.2		68	0.4
	3	2.9		69	0
	5	0		70	0
	6	2.0		71	0
	8	2.3		72	0
	9	8.0		73	7.1
	10	5.0		74	5.0
	12	0		75	8.1
	13	0		76	-3.5
	14	4.0		77	0
	16	1.4		78	3.2
	17	1.5		79	3.2
	18	0		80	0
	19	0		1	0.3
	20	3.8		3	-12.6
	21	3.8		5	0.2
	22	5.0		6	13.9
	26	0		7	0.3
	28	3.5		1	1.4
	29	3.6		2	2.3
	30	1.9		3	1.8
	31	0.3		5	2.4
	32	3.6		6	1.6
	34	1.9		7	6.4
	35	1.4		1	-80.4
	36	3.9		2	-80.5
	38	1.8		3	-80.2
	40	3.3		4	-80.2
	42	3.3		5	-81.5
	43	1.4		6	-81.6
	45	0		7	-77.8
	46	0		9	-81.8
	47	3.6		10	-76
	48	2.8		11	-81.9
	49	2.3		12	-79.4
	50	0.2		14	16.5
	51	2.5		15	11
	52	2.5		16	14.4
	53	2.5		18	86.4
	54	2.1		1	11
	55	5.2		3	4.9
	56	3.0		5	0
	57	3.1		6	0
	58	3.1		7	11.3
	59	3.2		9	0.3
	62	0		10	0
	63	0		12	0
	64	0		14	11.35

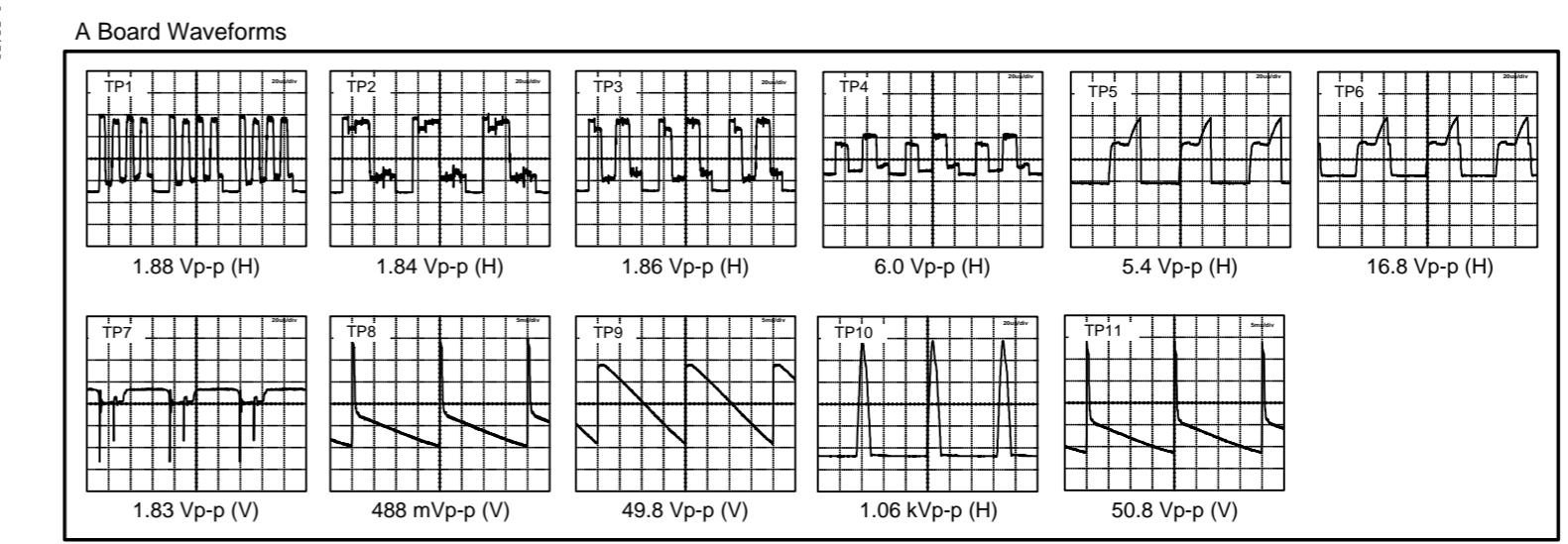
Semiconductor Voltage Table

Ref	(e)	(b)	(c)	Ref	(e)	(b)	(c)
Q013	0	0.7	0	Q604	0	0	2.5
Q016	0	0	3.3	Q608	0	0	5.6
Q212	0	0.7	0	Q609	5.6	5.6	0
Q401	4.8	4.2	1.8				
Q411	1.1	1.7	4.2	Ref	(s)	(g)	(d)
Q601	5.6	4.8	5.3	Q606	10.9	14.5	86.7
Q602	14.2	5.1	8	Q607	-82.4	-79.9	10.9
Q603	8	8	0	Q535	0	2.5	95.2



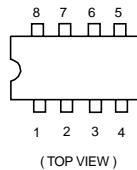


A [POWER SUPPLY, DEFLECTION, AUDIO AMPLIFIER (Page 2/2)]



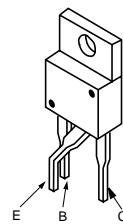
5-4. SEMICONDUCTORS

LM393DT
TDA2822M
TEA2124

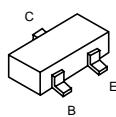
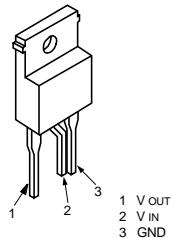


DTA144ESA
DTA144ESA-TP
DTC114EKA-T146
DTC143TKA-T146
DTC144EKA-T-146R
2SA1037K-T-146-R
R2SA1162-G
2SA1037K-T-146-QR
2SD601A-QTX
2SC1623-L5-L6
2SC2412K-QR
2SC2412K-T-146-R

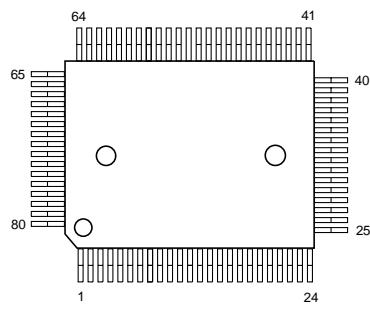
2SK2251-01-F19



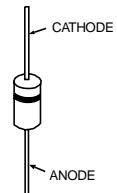
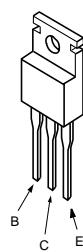
SE-135N
SE135N-LF4



TDA9394H

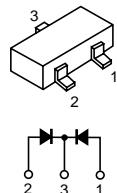
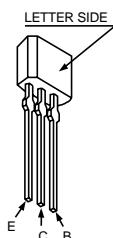
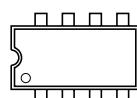


2SA933AS-QRT
2SAG33ASQT
2SA933AS-RT
2SC1740S-RT



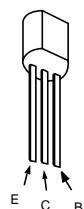
DAN202K
DAN202K-T146

TOP209P

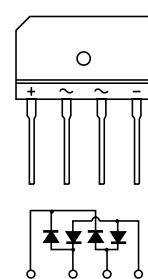
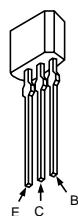


D4SB60L-F

BF421-AMMO
2SA1091-O

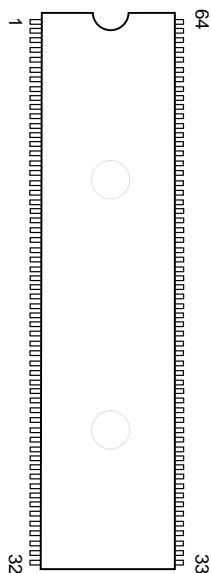


2SC2785-HFE

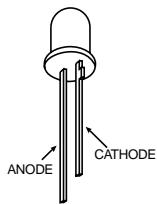


ERA81-004TP1	MTZJ-T-77-10A
ERA83-006	MTZJ-T-77-10B
MTZJ-3.6A	MTZJ-T-77-15B
MTZJ-T-77-2.2A	MTZJ-T-77-33A
HZS9.INBZ	MTZJ-33C
MTZJ-T-77-3.6B	MTZJ-7.5B
MTZJ-T-77-4.7B	P6KE200ASY
MTZJ-T-77-5.6B	RD3.9ES-B2
MTZJ-T-77-6.8B	RD7.5ESB2
MTZJ-T-77-8.2B	RD9.1ES-B3
MTZJ-T-77-7.5B	RD10ESB2
MTZJ-T-77-9.1B	RD15ES-T1B2
MTZJ-T-77-9.1B	1SS119-25TD
MTZJ-T-77-10	1SS133T-77

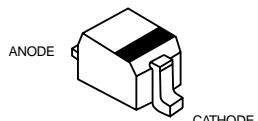
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MSP3411D



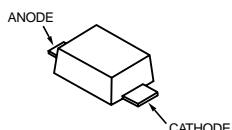
SLA-570KT3F



1SS355TE-17
RD12SB2
UDZS-TE-17-4.7B
UDZS-TE-17-5.6B
UDZS-TE-17-6.8B
UDZS-TE-17-9.1B
UDZ-TE-17-22B

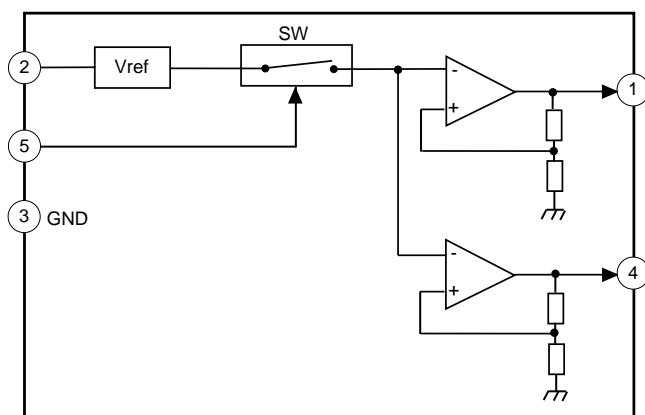


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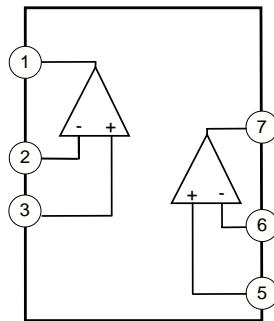


5-5 IC BLOCK DIAGRAMS

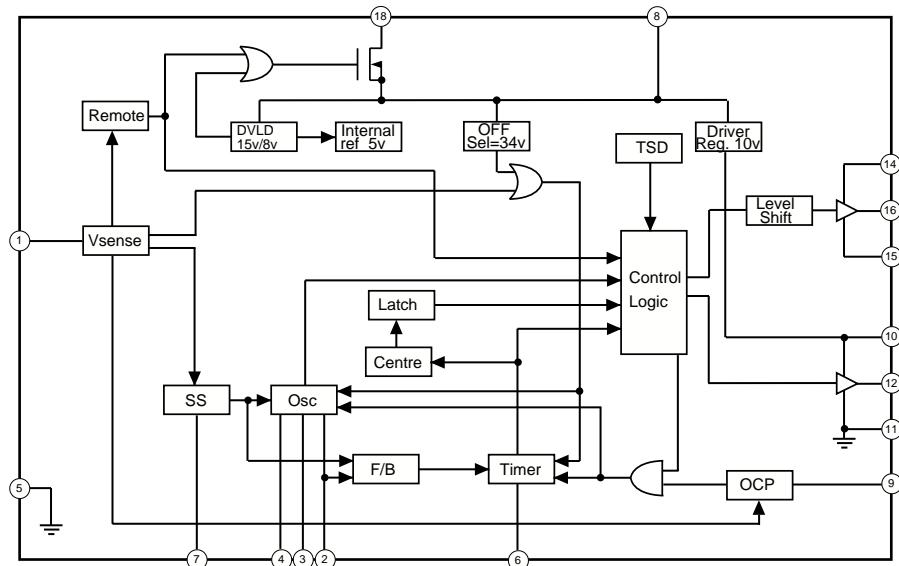
A BOARD IC604 BA41W12ST-V5



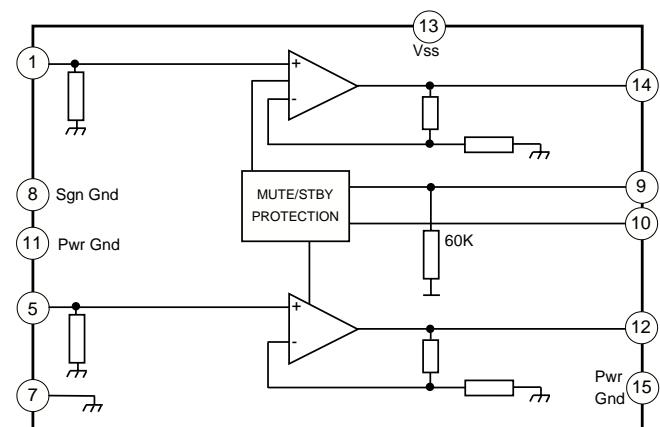
A BOARD IC401/IC531 LM393DT



A BOARD IC601 MCZ3001D



A BOARD IC1201 TDA7497



SECTION 6 EXPLODED VIEWS

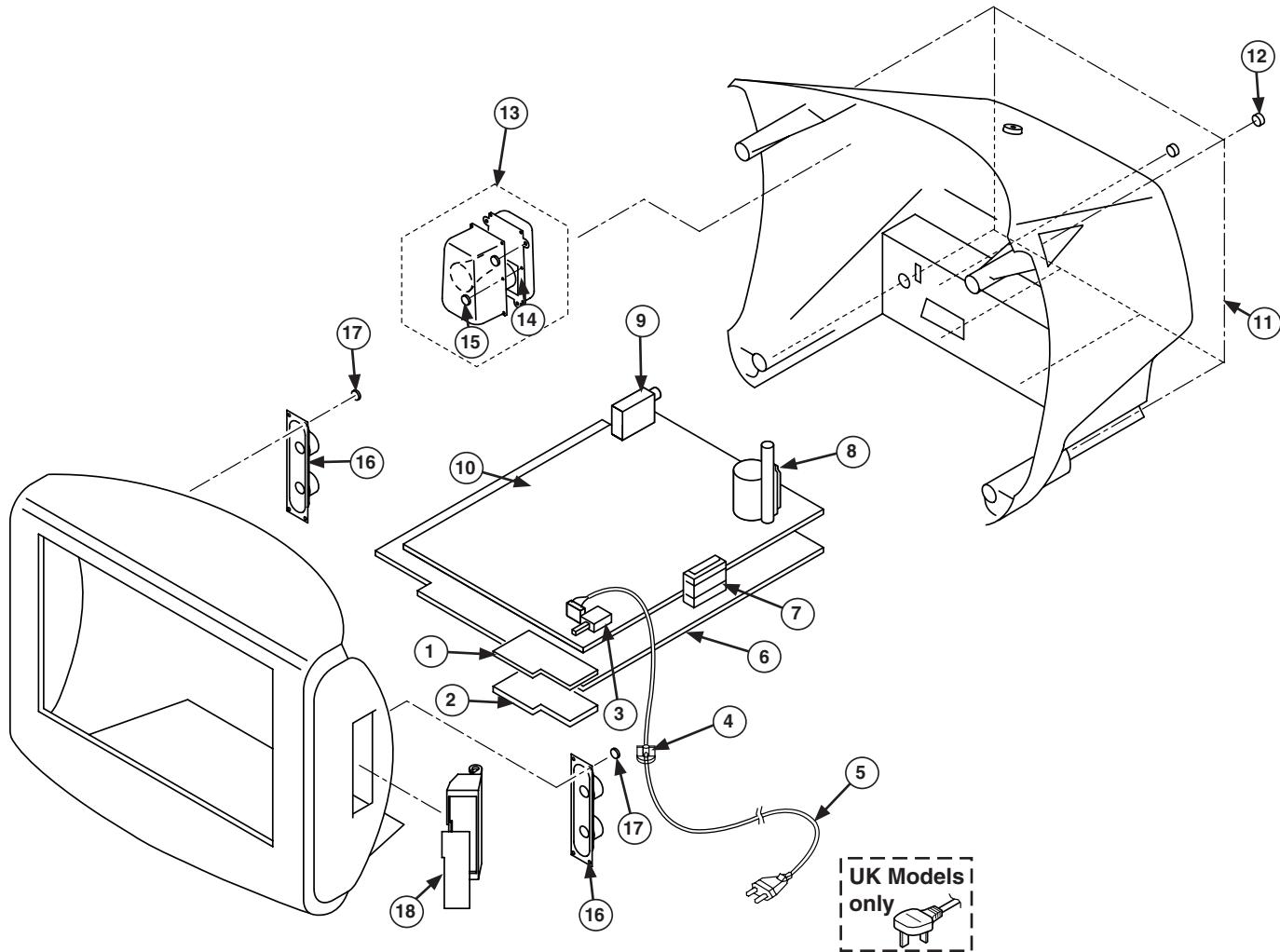
NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.

6-1. CHASSIS

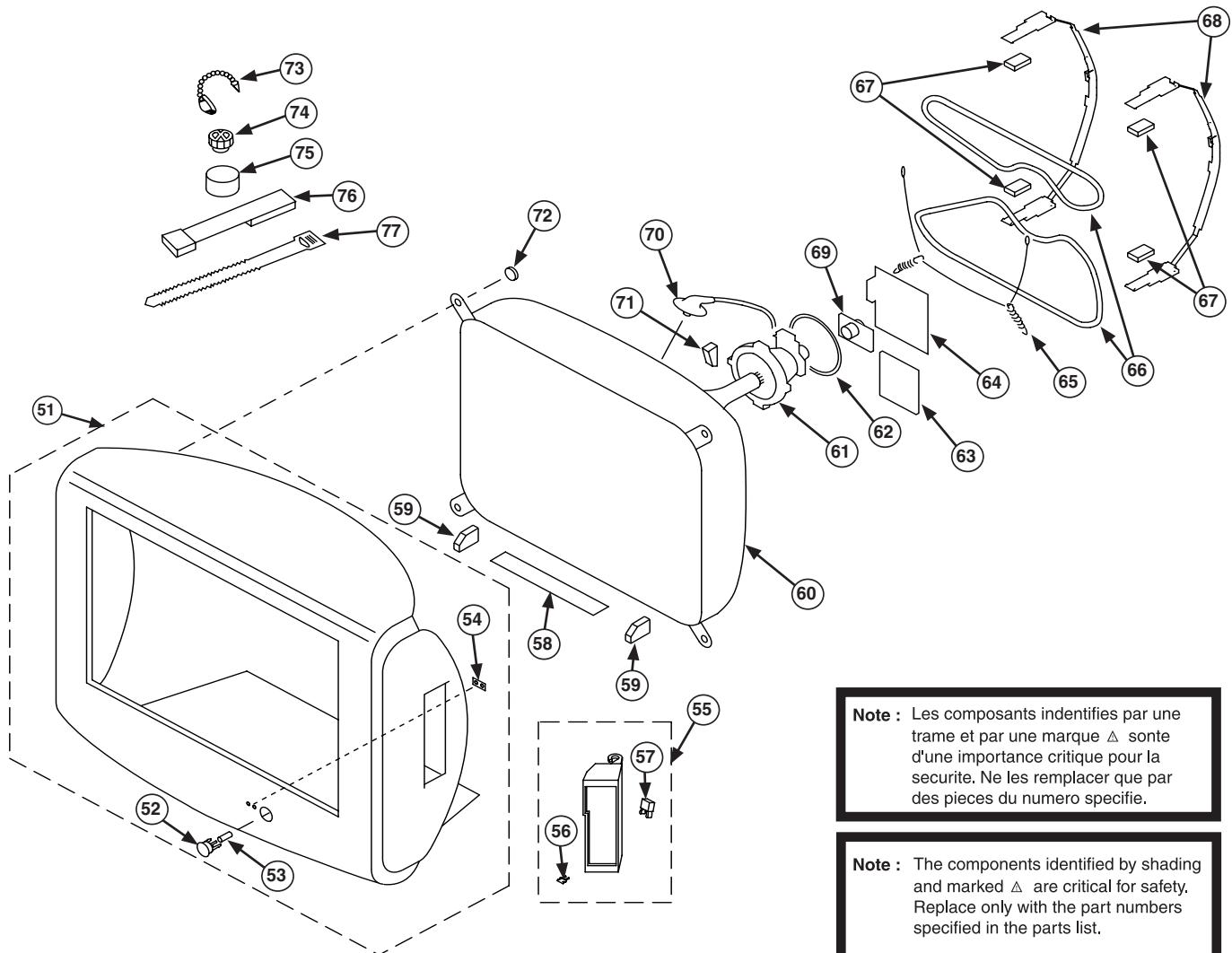
Note : Les composants indentifies par une trame et par une marque Δ sont d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

Note : The components identified by shading and marked Δ are critical for safety. Replace only with the part numbers specified in the parts list.



REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
1	*A-1625-001-A	F2 BOARD, COMPLETE		10	*A-1632-925-A	A BOARD, COMPLETE (KV-29LS30E/29LS30K)	
2	*4-206-055-01	BRACKET, F2			*A-1632-933-A	A BOARD, COMPLETE (KV-29LS30U)	
3 Δ	1-571-433-31	SWITCH, PUSH (AC POWER)			*A-1632-932-A	A BOARD, COMPLETE (KV-29LS35B)	
4	*4-202-531-01	AC CORD LOCK (SC)			*A-1632-922-A	A BOARD, COMPLETE (KV-29LS35E/29LS35K)	
5 Δ	1-765-286-11	CORD POWER (KV-29LS30E/29LS30K/ KV-29LS35E/29LS35K)		11	4-205-945-11	REAR COVER (KV-29LS30)	
	Δ 1-776-204-11	POWER CORD, FILTER (KV-29LS30U)			4-205-945-01	REAR COVER (KV-29LS35)	
	Δ 1-776-204-12	POWER CORD, FILTER (KV-29LS35B)		12	7-685-663-79	SCREW +BVTP 4x16 TYPE 2 IT-3	
6	*4-206-048-01	BRACKET, MAIN		13	*A-1678-205-A	WOOFER COMPLETE ASSY	14,15
7	1-424-733-11	COIL, PFC CHOKE 65MMH		14	1-529-417-11	SPEAKER (8CM)	
8 Δ	1-453-308-31	TRANSFORMER ASSY, FLYBACK (NX-4521//Z2B4)		15	7-685-663-71	SCREW +BVTP 4x16 TYPE 2 IT-3	
9	8-598-533-00	FRONTEND BTF-EC411 (KV-29LS30E/29LS30K/ KV-29LS35E/29LS35K)		16	1-529-408-11	SPEAKER (4.2x24CM)	
	8-598-529-00	FRONTEND BTF-EU611 (KV-29LS30U)		17	4-384-096-01	SCREW +BVTP 4x16 TYPE 2 IT-3	
	8-598-535-10	FRONTEND BTF-EF411 (KV-29LS35B)		18	*A-1646-239-A	H2 BOARD, COMPLETE	

6-2. PICTURE TUBE



REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
51	X-4200-711-1	BEZNET ASSY (KV-29LS30)	52-54	65	4-369-318-22	SPRING, TENSION	
	X-4200-691-1	BEZNET ASSY (KV-29LS35)	52-54	66 Δ	1-416-654-11	COIL, DEMAGNETIC	
52	4-205-948-01	POWER BUTTON		67	4-203-390-11	CUSHION, DGC	
53	4-204-426-01	SPRING		68	*4-204-768-01	HOLDER, DGC	
54	4-205-375-01	GUIDE, LIGHT		69	8-453-011-11	NECK ASSY, (NA299-M)	
55	X-4200-712-1	DOOR ASSY	56, 57	70 Δ	1-251-537-22	CAP ASSY, HIGH VOLTAGE	
56	3-022-410-31	DAMPER		71	3-704-495-02	SPACER, DY	
57	4-047-464-01	CATCHER, PUSH		72	4-046-765-12	SCREW, TAPPING 7+ CROWN WASHER	
58	4-204-666-01	SHEET, BLOTTING		73	4-308-870-00	CLIP, LEAD WIRE	
59	4-205-950-01	CRT SUPPORTER		74	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM	
60 Δ	8-735-053-05	PICTURE TUBE (M68LNH060X)		75	1-452-032-11	MAGNET, DISK; 10MM	
61	8-451-494-51	DEFLECTION YOKE (Y29RSA-L)		76	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
62	1-452-896-11	COIL, NA ROTATION (RT-200)		77	3-701-007-00	BAND, BINDING	
63	*A-1645-045-A	VM BOARD, COMPLETE					
64	*A-1639-019-A	C BOARD, COMPLETE					

SECTION 7

ELECTRICAL PARTS LIST

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A BOARD COMMON Parts List :	Parts common to all models listed in this manual
A BOARD VARIANT Parts List :	Parts that belong only to the model specified
Model	
<u>KV-29LS30</u>	55
<u>KV-29LS35</u>	55
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Note : Refer to the designated variant parts list when seeking a part indicated by an asterisk (*)
Parts indicated (XX) on the Schematic Diagram are not used in this model and
therefore do not appear in the Parts List.

Note : The components identified by shading and marked Δ are critical for safety. Replace only with the part numbers specified in the parts list.

F2 **A**

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
*A-1625-001-A F2 Board, Complete						< CAPACITOR >	
4-203-258-02 HOLDER, LED						C002 1-163-233-91 CERAMIC CHIP 18PF	5.00% 50V
*4-374-846-01 COVER, CAPACITOR, CAP TYPE						C004 1-163-037-91 CERAMIC CHIP 0.022UF	10.00% 50V
< CAPACITOR >						C005 1-126-935-91 ELECT 470UF	20.00% 10V
C2601	1-113-924-51 CERAMIC	0.0047UF	20.00% 250V	C006 1-163-233-91 CERAMIC CHIP 18PF	5.00% 50V		
C2901	1-126-964-91 ELECT	10UF	20.00% 50V	C009 1-164-004-91 CERAMIC CHIP 0.1UF	10.00% 25V		
C2902	1-104-665-91 ELECT	100UF	20.00% 25V	C010 1-164-005-91 CERAMIC CHIP 0.47UF	16V		
< CONNECTOR >						C011 1-163-005-91 CERAMIC CHIP 470PF	10.00% 50V
CN2601	*1-580-844-11 PIN, CONNECTOR (POWER)			C012 1-126-963-91 ELECT 4.7UF	20.00% 50V		
CN2602	1-695-915-21 TAB (CONTACT)			C013 1-162-970-91 CERAMIC CHIP 0.01UF	10.00% 25V		
CN2603	*1-691-291-11 PIN, CONNECTOR (PC BOARD)	5P		C014 1-162-970-91 CERAMIC CHIP 0.01UF	10.00% 25V		
CN2901	*1-564-510-51 PLUG, CONNECTOR	7P		C015 1-162-970-91 CERAMIC CHIP 0.01UF	10.00% 25V		
< DIODE >						C016 1-216-295-91 SHORT 0	
D2901	8-719-923-60 DIODE MTZJ-T-77-9.1A			C018 1-162-970-91 CERAMIC CHIP 0.01UF	10.00% 25V		
D2902	8-719-923-60 DIODE MTZJ-T-77-9.1A			C020 1-164-004-91 CERAMIC CHIP 0.1UF	10.00% 25V		
D2903	8-719-302-45 DIODE SEL1210S-D			C021 1-163-037-91 CERAMIC CHIP 0.022UF	10.00% 50V		
< FUSE >						C022 1-126-935-91 ELECT 470UF	20.00% 10V
F2601	Δ 1-576-232-11 FUSE (H.B.C.) 5A/250V			C025 1-126-935-91 ELECT 470UF	20.00% 16V		
	Δ *1-533-725-11 HOLDER, FUSE (F2601)			C026 1-162-970-91 CERAMIC CHIP 0.01UF	10.00% 25V		
< IC >						C027 1-164-004-91 CERAMIC CHIP 0.1UF	10.00% 25V
IC2901	8-742-180-30 HYB IC SBX3081-51 (30)			C028 1-163-009-91 CERAMIC CHIP 0.001UF	10.00% 50V		
< RESISTOR >						C030 1-163-009-91 CERAMIC CHIP 0.001UF	10.00% 50V
R2601	1-202-719-91 SOLID	1M	10%	C033 1-163-009-91 CERAMIC CHIP 0.001UF	10.00% 50V		
R2901	1-249-401-91 CARBON	47	5%	C035 1-163-009-91 CERAMIC CHIP 0.001UF	10.00% 50V		
R2902	1-247-807-91 CARBON	100	5%	C036 1-163-009-91 CERAMIC CHIP 0.001UF	10.00% 50V		
< SWITCH >						C037 1-137-354-91 FILM 0.01UF	5.00% 100V
S2601	Δ 1-571-433-31 SWITCH, PUSH (AC POWER)			C038 1-163-038-91 CERAMIC CHIP 0.1UF	25V		
< VARISTOR >						C039 1-164-505-91 CERAMIC CHIP 2.2UF	16V
VDR2601	1-803-830-31 VARISTOR (ERZV14D621)			C040 1-163-017-91 CERAMIC CHIP 0.0047UF	10.00% 50V		
*A-1632-925-A A Board, Complete (KV-29LS30E/ KV-29LS30K)						C042 1-162-625-91 CERAMIC CHIP 0.0047UF	5.00% 50V
*A-1632-933-A A Board, Complete (KV-29LS30U)						C043 1-163-037-91 CERAMIC CHIP 0.022UF	10.00% 50V
*A-1632-932-A A Board, Complete (KV-29LS35B)						C044 1-164-346-91 CERAMIC CHIP 1UF	16V
*A-1632-922-A A Board, Complete (KV-29LS35E/ KV-29LS35K)						C045 1-164-489-91 CERAMIC CHIP 0.22UF	10.00% 16V
A Board Common Parts						C046 1-163-037-91 CERAMIC CHIP 0.022UF	10.00% 50V
1-900-903-72 LEAD ASSY, FOCUS						C047 1-126-935-91 ELECT 470UF	20.00% 16V
4-382-854-01 SCREW (M3X8), P, SW (+)						C053 1-164-004-91 CERAMIC CHIP 0.1UF	10.00% 25V
4-382-854-01 SCREW (M3X8), P, SW (+)						C055 1-126-960-91 ELECT 1UF	20.00% 50V
						C100 1-126-933-91 ELECT 100UF	20.00% 16V
						C103 1-126-965-91 ELECT 22UF	20.00% 50V
						C105 1-162-970-91 CERAMIC CHIP 0.01UF	10.00% 25V
						C106 1-126-933-91 ELECT 100UF	20.00% 16V
						C112 1-162-970-91 CERAMIC CHIP 0.01UF	10.00% 25V
						C204 1-115-340-91 CERAMIC CHIP 0.22UF	10.00% 25V
						C211 1-162-970-91 CERAMIC CHIP 0.01UF	10.00% 25V
						C213 1-163-249-91 CERAMIC CHIP 82PF	5.00% 50V
						C214 1-163-139-91 CERAMIC CHIP 82PF	5.00% 50V
						C215 1-163-084-91 CERAMIC CHIP 1.5PF	0.25PF 50V
						C216 1-163-117-91 CERAMIC CHIP 100PF	5.00% 50V
						C217 1-163-084-91 CERAMIC CHIP 1.5PF	0.25PF 50V

Note : The components identified by shading and marked Δ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C218	1-163-249-91	CERAMIC CHIP 82PF	5.00% 50V	C449	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C221	1-163-109-91	CERAMIC CHIP 47PF	5.00% 50V	C501	1-126-968-91	ELECT 100UF	20.00% 50V
C222	1-163-117-91	CERAMIC CHIP 100PF	5.00% 50V	C502	1-163-038-91	CERAMIC CHIP 0.1UF	25V
C223	1-126-965-91	ELECT 22UF	20.00% 50V	C503	1-111-116-91	ELECT 100UF	20.00% 50V
C224	1-163-117-91	CERAMIC CHIP 100PF	5.00% 50V	C504	1-106-220-91	MYLAR 0.1UF	10.00% 100V
C225	1-126-157-91	ELECT 10UF	20.00% 16V	C505	1-137-194-81	FILM 0.47UF	5.00% 50V
C226	1-164-004-91	CERAMIC CHIP 0.1UF	10.00% 25V	C506	1-162-970-91	CERAMIC CHIP 0.01UF	10.00% 25V
C227	1-163-117-91	CERAMIC CHIP 100PF	5.00% 50V	C508	1-163-035-91	CERAMIC CHIP 0.047UF	50V
C228	1-126-965-91	ELECT 22UF	20.00% 50V	C509	1-107-364-81	MYLAR 0.01UF	10.00% 400V
C229	1-163-017-91	CERAMIC CHIP 0.0047UF	10.00% 50V	C510	1-163-005-91	CERAMIC CHIP 470PF	10.00% 50V
C230	1-164-336-91	CERAMIC CHIP 0.33UF	25V	C513	1-107-653-91	ELECT 22UF	20.00% 250V
C232	1-126-157-91	ELECT 10UF	20.00% 16V	C515	1-104-666-91	ELECT 220UF	20.00% 25V
C233	1-164-004-91	CERAMIC CHIP 0.1UF	10.00% 25V	C517	1-111-059-91	ELECT 220UF	20.00% 25V
C234	1-107-823-91	CERAMIC CHIP 0.47UF	10.00% 16V	C518	1-106-375-81	MYLAR 0.022UF	10.00% 250V
C235	1-164-005-91	CERAMIC CHIP 0.47UF	25V	C519	1-163-275-91	CERAMIC CHIP 0.001UF	5.00% 50V
C236	1-126-157-91	ELECT 10UF	20.00% 16V	C520	1-163-038-91	CERAMIC CHIP 0.1UF	25V
C237	1-126-965-91	ELECT 22UF	20.00% 50V	C522	1-137-376-91	ELECT 0.1UF	5.00% 50V
C238	1-163-117-91	CERAMIC CHIP 100PF	5.00% 50V	C525	1-123-024-51	ELECT 33UF	160V
C239	1-126-157-91	ELECT 10UF	20.00% 16V	C530	1-162-970-91	CERAMIC CHIP 0.01UF	10.00% 25V
C242	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V	C531	1-126-964-91	ELECT 10UF	20.00% 50V
C245	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V	C532	1-163-037-91	CERAMIC CHIP 0.022UF	10.00% 50V
C401	1-126-964-91	ELECT 10UF	20.00% 50V	C535	1-163-233-91	CERAMIC CHIP 18PF	5.00% 50V
C404	1-162-970-91	CERAMIC CHIP 0.01UF	10.00% 25V	C536	1-117-670-21	FILM 0.82UF	5.00% 250V
C405	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V	C537	1-108-413-91	MYLAR 0.0022UF	10.00% 200V
C407	1-164-346-91	CERAMIC CHIP 1UF	16V	C538	1-165-319-91	CERAMIC CHIP 0.1UF	50V
C408	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V	C539	1-111-230-91	ELECT 1UF	20.00% 160V
C409	1-126-964-91	ELECT 10UF	20.00% 50V	C540	1-136-206-91	MYLAR 0.033UF	10.00% 400V
C410	1-162-970-91	CERAMIC CHIP 0.01UF	10.00% 25V	C541	1-106-383-91	MYLAR 0.047UF	10.00% 200V
C411	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V	C542	1-161-754-61	CERAMIC 0.001UF	10.00% 2KV
C412	1-164-346-91	CERAMIC CHIP 1UF	16V	C543	1-162-134-51	CERAMIC 470PF	10.00% 2KV
C414	1-164-346-91	CERAMIC CHIP 1UF	16V	C545	1-164-004-91	CERAMIC CHIP 0.1UF	10.00% 25V
C415	1-164-346-91	CERAMIC CHIP 1UF	16V	C546	1-130-118-51	FILM 0.051UF	5.00% 400V
C416	1-126-964-91	ELECT 10UF	20.00% 50V	C547	1-115-521-11	FILM 0.82UF	5.00% 250V
C417	1-162-970-91	CERAMIC CHIP 0.01UF	10.00% 25V	C548	1-162-134-51	CERAMIC 470PF	10.00% 2KV
C418	1-164-346-91	CERAMIC CHIP 1UF	10.00% 16V	C550	1-107-638-91	ELECT 33UF	20.00% 160V
C419	1-162-964-91	CERAMIC CHIP 0.001UF	10.00% 50V	C552	1-102-212-91	CERAMIC 820PF	10.00% 500V
C423	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V	C553	1-137-417-91	MYLAR 0.0047UF	10.00% 200V
C424	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V	C555	1-127-717-11	FILM 19000PF	3% 1.2KV
C426	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V	C570	1-126-961-91	ELECT 2.2UF	20.00% 50V
C427	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V	C580	1-162-970-91	CERAMIC CHIP 0.01UF	10.00% 25V
C428	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V	C582	1-163-255-91	CERAMIC CHIP 150PF	5.00% 50V
C429	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V	C583	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C430	1-102-114-91	CERAMIC 470PF	10.00% 50V	C600	1-119-888-51	CERAMIC 2200PF	20.00% 250V
C435	1-163-017-91	CERAMIC CHIP 0.0047UF	10.00% 50V	C601	Δ 1-136-516-12	FILM 0.1UF	20.00% 300V
C436	1-163-017-91	CERAMIC CHIP 0.0047UF	10.00% 50V	C602	Δ 1-136-516-12	FILM 0.1UF	20.00% 300V
C437	1-164-346-91	CERAMIC CHIP 1UF	16V	C603	Δ 1-119-899-51	CERAMIC 1000PF	20.00% 250V
C438	1-164-346-91	CERAMIC CHIP 1UF	16V	C604	Δ 1-119-899-51	CERAMIC 1000PF	20.00% 250V
C445	1-126-964-91	ELECT 10UF	20.00% 50V	C605	1-126-935-91	ELECT 470UF	20.00% 16V
C446	1-126-964-91	ELECT 10UF	20.00% 50V	C606	1-117-751-11	ELECT(BLOCK) 220UF	20.00% 450V
C447	1-162-970-91	CERAMIC CHIP 0.01UF	10.00% 25V	C607	1-126-964-91	ELECT 10UF	20.00% 50V

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK		
C608	1-126-963-91	ELECT	4.7UF	20.00% 50V	C1221	1-115-339-91	CERAMIC CHIP 0.1UF	10.00% 50V	
C610	1-126-941-91	ELECT	470UF	20.00% 25V	C1228	1-126-952-91	ELECT	1000UF	20.00% 35V
C611	1-163-009-91	CERAMIC CHIP	0.001UF	10.00% 50V	C1229	1-163-001-91	CERAMIC CHIP 220PF	10.00% 50V	
C612	1-104-571-91	CERAMIC	0.0015UF	10.00% 2KV	C1230	1-163-001-91	CERAMIC CHIP 220PF	10.00% 50V	
C613	1-104-571-91	CERAMIC	0.0015UF	10.00% 2KV	C1231	1-163-001-91	CERAMIC CHIP 220PF	10.00% 50V	
C614	1-161-964-51	CERAMIC	0.0047UF	250V	C1232	1-115-339-91	CERAMIC CHIP 0.1UF	10.00% 50V	
C615	1-115-339-91	CERAMIC CHIP	0.1UF	10.00% 50V	C1235	1-126-960-91	ELECT	1UF	20.00% 50V
C616	1-165-127-91	CERAMIC	470PF	10.00% 500V	C1236	1-126-960-91	ELECT	1UF	20.00% 50V
C617	1-165-127-91	CERAMIC	470PF	10.00% 500V	< CONNECTOR >				
C618	1-126-949-91	ELECT	220UF	20.00% 35V	CN001	*1-564-508-51	PLUG, CONNECTOR 5P		
C619	1-164-644-51	CERAMIC	330PF	10.00% 500V	CN003	*1-564-510-51	PLUG, CONNECTOR 7P		
C620	1-137-990-21	FILM	33000PF	3% 800V	CN405	*1-564-510-51	PLUG, CONNECTOR 7P		
C621	1-164-644-51	CERAMIC	330PF	10.00% 500V	CN406	*1-564-512-11	PLUG, CONNECTOR 9P		
C622	1-104-571-91	CERAMIC	0.0015UF	10.00% 2KV	CN501	1-580-798-32	CONNECTOR PIN (DY)		
C623	1-104-571-91	CERAMIC	0.0015UF	10.00% 2KV	CN503	*1-564-506-51	PLUG, CONNECTOR 3P		
C624	1-126-935-91	ELECT	470UF	20.00% 16V	CN506	1-695-915-21	TAB (CONTACT)		
C626	1-126-967-91	ELECT	47UF	20.00% 50V	CN508	*1-564-508-51	PLUG, CONNECTOR 5P		
C627	1-126-964-91	ELECT	10UF	20.00% 50V	CN509	1-695-915-21	TAB (CONTACT)		
C628	1-126-963-91	ELECT	4.7UF	20.00% 50V	CN510	1-691-771-11	PLUG (MICRO CONNECTOR) 9P		
C630	1-107-641-41	ELECT	220UF	20.00% 160V	CN602	1-508-765-13	PIN, CONNECTOR (5MM PITCH) 3P		
C631	1-126-942-91	ELECT	1000UF	20.00% 25V	CN603	*1-508-786-13	PIN, CONNECTOR (5MM PITCH) 2P		
C632	1-126-964-91	ELECT	10UF	20.00% 50V	CN605	*1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P		
C633	1-163-009-91	CERAMIC CHIP	0.001UF	10.00% 50V	CN606	*1-695-292-11	PIN, CONNECTOR (POWER)		
C634	1-128-562-91	ELECT	47UF	20.00% 100V	CN1200	*1-564-509-51	PLUG, CONNECTOR 6P		
C635	1-136-165-81	FILM	0.1UF	5.00% 50V	CN1201	*1-564-507-51	PLUG, CONNECTOR 4P		
C636	1-136-479-41	FILM	0.001UF	2.00% 50V	CN1202	*1-564-506-51	PLUG, CONNECTOR 3P		
C637	1-126-967-91	ELECT	47UF	20.00% 50V	< DIODE >				
C638	1-107-679-91	ELECT	10UF	20.00% 450V	D001	8-719-069-55	DIODE UDZSTE-175.6B		
C639	1-104-665-91	ELECT	100UF	20.00% 25V	D002	8-719-069-55	DIODE UDZSTE-175.6B		
C640	1-104-664-91	ELECT	47UF	20.00% 25V	D003	8-719-109-69	DIODE RD3.6ES-B2		
C641	1-111-036-91	ELECT	470UF	20.00% 16V	D005	8-719-929-15	DIODE HZS9.1NB2		
C642	1-104-665-91	ELECT	100UF	20.00% 25V	D006	8-719-109-89	DIODE RD5.6ESB2		
C643	1-165-127-91	CERAMIC	470PF	10.00% 500V	D007	8-719-069-55	DIODE UDZSTE-175.6B		
C645	1-164-004-91	CERAMIC CHIP	0.1UF	10.00% 25V	D008	8-719-074-43	DIODE BAS316-115		
C648	1-125-782-91	CERAMIC	4700PF	10.00% 1KV	D010	8-719-074-43	DIODE BAS316-115		
C649	1-163-038-91	CERAMIC	0.1UF	25V	D011	8-719-074-43	DIODE BAS316-115		
C657	1-126-952-91	ELECT	1000UF	20.00% 35V	D012	8-719-929-15	DIODE HZS9.1NB2		
C1201	1-126-972-51	ELECT	1000UF	20.00% 50V	D013	8-719-109-69	DIODE RD3.6ES-B2		
C1202	1-126-959-91	ELECT	0.047UF	20.00% 50V	D014	1-216-295-91	SHORT 0		
C1203	1-535-143-61	LEAD, JUMPER (5.0MM)			D016	8-719-947-21	DIODE MTZJ-T-72-5.6B		
C1207	1-126-960-91	ELECT	1UF	20.00% 50V	D018	8-719-109-69	DIODE RD3.6ES-B2		
C1208	1-126-953-81	ELECT	2200UF	20.00% 35V	D019	8-719-069-57	DIODE UDZS-TE-17-6.8B		
C1209	1-163-033-91	CERAMIC CHIP	0.022UF	50V	D021	8-719-978-33	DIODE DTZ-TT11-6.8B		
C1210	1-126-960-91	ELECT	1UF	20.00% 50V	D022	8-719-069-55	DIODE UDZSTE-175.6B		
C1211	1-163-033-91	CERAMIC CHIP	0.022UF	50V	D035	8-719-069-55	DIODE UDZSTE-175.6B		
C1213	1-164-346-91	CERAMIC CHIP	1UF	16V	D036	8-719-069-55	DIODE UDZSTE-175.6B		
C1215	1-126-952-91	ELECT	1000UF	20.00% 35V	D051	8-719-081-98	DIODE MM3Z6V8T1		
C1218	1-109-982-91	CERAMIC CHIP	1UF	10.00% 10V					
C1219	1-104-666-91	ELECT	220UF	20.00% 25V					

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
D101	8-719-977-81	DIODE DTZ33B		D535	8-719-908-03	DIODE GP08D	
D103	8-719-081-98	DIODE MM3Z6V8T1		D536	8-719-945-80	DIODE ERC06-15S	
D104	8-719-069-55	DIODE UDVZSTE-175.6B		D537	8-719-070-62	DIODE PDZ9.1B-115	
D105	8-719-069-55	DIODE UDVZSTE-175.6B		D538	8-719-908-03	DIODE GP08D	
D106	8-719-069-55	DIODE UDVZSTE-175.6B		D539	8-719-312-10	DIODE RU4AM-T3	
D107	8-719-069-55	DIODE UDVZSTE-175.6B		D540	8-719-908-03	DIODE GP08D	
D207	8-719-069-57	DIODE UDVZS-T2-6.8B		D541	1-216-295-91	SHORT 0	
D210	8-719-069-55	DIODE UDVZSTE-175.6B		D573	8-719-082-00	DIODE MM3Z4V7T1	
D211	8-719-069-60	DIODE UDVZSTE-179.1B		D601	8-719-510-53	DIODE D4SB60L	
D212	8-719-914-43	DIODE DAN202K		D602	8-719-911-19	DIODE 1SS119-25	
D228	8-719-069-55	DIODE UDVZSTE-175.6B		D604	8-719-083-94	DIODE FUF4005	
D235	8-719-069-55	DIODE UDVZS-17-5.6B		D608	8-719-063-70	DIODE D1NL20U	
D236	8-719-069-60	DIODE UDVZSTE-179.1B		D610	8-719-110-41	DIODE RD15ES-B2	
D239	8-719-069-60	DIODE UDVZSTE-179.1B		D611	8-719-991-33	DIODE 1SS133T-77	
D401	8-719-069-57	DIODE UDVZS-TE-17-6.8B		D612	8-719-991-33	DIODE 1SS133T-77	
D402	8-719-081-98	DIODE MM3Z6V8T1		D613	8-719-911-19	DIODE 1SS119-25	
D403	8-719-978-33	DIODE DTZ-TT11-6.8B		D614	8-719-077-76	DIODE D2SB60A-F04	
D404	8-719-109-89	DIODE RD5.6ESB2		D615	8-719-929-15	DIODE HZS9.1NB2	
D405	8-719-081-98	DIODE MM3Z6V8T1		D618	8-719-312-92	DIODE RK14V1	
D406	8-719-081-98	DIODE MM3Z6V8T1		D619	8-719-312-92	DIODE RK14V1	
D407	8-719-081-98	DIODE MM3Z6V8T1		D620	8-719-109-85	DIODE RD5.1ESB2	
D408	8-719-069-57	DIODE UDVZS-TE-17-6.8B		D621	8-719-109-89	DIODE RD5.6ESB2	
D410	8-719-069-57	DIODE UDVZS-TE-17-6.8B		D623	8-719-911-19	DIODE 1SS119-25	
D411	8-719-069-57	DIODE UDVZS-TE-17-6.8B		D624	8-719-052-90	DIODE DINL40-TA2	
D412	8-719-081-98	DIODE MM3Z6V8T1		D625	8-719-062-39	DIODE D4SBL20UF1	
D413	8-719-069-57	DIODE UDVZS-TE-17-6.8B		D627	8-719-063-70	DIODE D1NL20-U	
D414	8-719-081-98	DIODE MM3Z6V8T1		D628	8-719-083-49	DIODE P6KE200ASY	
D418	8-719-069-60	DIODE UDVZSTE-179.1B		D629	8-719-083-94	DIODE FUF4005	
D419	8-719-049-26	DIODE RB721Q		D631	8-719-921-63	DIODE MTZJ-7.5B	
D420	8-719-081-98	DIODE MM3Z6V8T1		D632	8-719-063-70	DIODE D1NL20U	
D421	8-719-049-26	DIODE RB721Q		D633	8-719-109-69	DIODE RD3.6ES-B2	
D422	8-719-069-57	DIODE UDVZS-TE-17-6.8B		D638	8-719-083-92	DIODE YG802C09RF122	
D423	8-719-081-98	DIODE MM3Z6V8T1		D640	8-719-921-63	DIODE MTZJ-7.5B	
D424	8-719-069-60	DIODE UDVZSTE-179.1B		D649	8-719-069-57	DIODE UDVZS-TE-17-6.8B	
D427	8-719-082-01	DIODE MM3Z12VT1		D1203	8-719-914-43	DIODE DAN202K	
D428	8-719-069-57	DIODE UDVZS-TE-17-6.8B		D1204	8-719-069-55	DIODE UDVZSTE-175.6B	
D429	8-719-069-57	DIODE UDVZS-TE-17-6.8B		D1205	8-719-081-90	DIODE PDZ22B-115	
D435	8-719-069-60	DIODE UDVZSTE-179.1B		D1230	8-719-074-43	DIODE BAS316-115	
D436	8-719-069-60	DIODE UDVZSTE-179.1B					< FERRITE BEAD >
D501	8-719-940-94	DIODE RGP15GPK23					
D502	8-719-081-90	DIODE PDZ22B-115		FB601	1-410-397-31	FERRITE	1.1UH
D503	8-719-069-55	DIODE UDVZSTE-175.6B		FB602	1-410-397-31	FERRITE	1.1UH
D504	8-719-074-43	DIODE BAS316-115		FB604	1-410-397-31	FERRITE	1.1UH
D505	8-719-081-97	DIODE MMDL914T1		FB605	1-410-397-31	FERRITE	1.1UH
D506	8-719-908-03	DIODE GP08D		FB606	1-412-911-21	FERRITE	0UH
D507	8-719-070-59	DIODE PDZ6.8B-115		FB607	1-412-911-21	FERRITE	0UH
D512	8-719-302-43	DIODE RGP10GPKG23					< FILTER >
D513	8-719-979-85	DIODE EGP20G					
D514	8-719-979-85	DIODE EGP20G					
D534	8-719-302-43	DIODE RGP10GPKG23		FL201	1-239-803-21	FILTER, EMI	

Note : The components identified by shading and marked Δ are critical for safety. Replace only with the part numbers specified in the parts list.

A

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
< IC >				L533	1-406-989-11	INDUCTOR	10MH
IC001	8-759-837-20	IC TDA9394H/N1/4/0310		L534	1-216-025-91	RES-CHIP	100 5% 1/10W
IC004	8-759-575-72	IC M24C08-WMN6T		L535	1-459-111-21	INDUCTOR	10MH
IC401	8-759-665-11	IC LM393DT		L601	1-408-603-21	INDUCTOR	10UH
IC501	8-759-192-71	IC STV9379		L602	1-408-611-21	INDUCTOR	47UH
IC531	8-759-665-11	IC LM393DT		L603	1-535-143-61	LEAD, JUMPER	(5.0MM)
IC601	8-759-670-30	IC MCZ3001D		L1200	1-535-143-61	LEAD, JUMPER	(5.0MM)
IC602	8-749-016-19	IC SE135N-LF4		L1201	1-535-143-61	LEAD, JUMPER	(5.0MM)
IC604	8-759-668-87	IC BA41W12ST-V5		L1203	1-535-143-61	LEAD, JUMPER	(5.0MM)
IC608	8-759-591-02	IC L78L33ABZ-AP		< PHOTO COUPLER >			
IC609	8-759-468-89	IC TOP209P		PH601	Δ 8-749-016-21	IC TCET1103G	
IC1201	8-759-831-56	IC TDA7497		< IC LINK >			
< JACK >				PS1201	1-535-143-31	LEAD, JUMPER	15.0MM
J401	1-766-296-21	CONNECTOR, DUAL SCART		< TRANSISTOR >			
J404	1-784-632-11	JACK, PIN 2P		Q013	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
< COIL >				Q014	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L001	1-408-611-21	INDUCTOR	47UH	Q049	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L004	1-408-611-21	INDUCTOR	47UH	Q202	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L006	1-408-611-21	INDUCTOR	47UH	Q203	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L027	1-216-295-91	SHORT	0	Q212	8-729-422-33	TRANSISTOR 2SD601A-Q-TX	
L101	1-412-533-41	INDUCTOR	47UH	Q401	8-729-026-49	TRANSISTOR 2SA1037AK-T146	
L102	1-408-611-21	INDUCTOR	47UH	Q409	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L103	1-412-002-41	INDUCTOR	4.7UH	Q411	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L104	1-412-002-41	INDUCTOR	4.7UH	Q532	8-729-050-48	TRANSISTOR IRF614-005	
L201	1-408-602-21	INDUCTOR	8.2UH	Q533	8-729-049-08	TRANSISTOR BU2515DX-127	
L202	1-408-591-21	INDUCTOR	1UH	Q535	8-729-053-33	TRANSISTOR IRF614-037	
L203	1-408-602-21	INDUCTOR	8.2UH	Q570	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L205	1-408-591-21	INDUCTOR	1UH	Q601	8-729-026-49	TRANSISTOR 2SA1037AK-T146	
L206	1-535-143-61	LEAD, JUMPER	(5.0MM)	Q602	8-729-119-78	TRANSISTOR 2SC2785-HFE	
L207	1-408-591-21	INDUCTOR	1UH	Q603	8-729-029-56	TRANSISTOR DTA144ESA	
L401	1-410-993-42	INDUCTOR	1UH	Q604	8-729-030-02	TRANSISTOR DTC144ESA	
L403	1-410-993-42	INDUCTOR	1UH	Q606	8-729-053-36	TRANSISTOR 2SK2640-01MR	
L404	1-410-993-42	INDUCTOR	1UH	Q607	8-729-053-36	TRANSISTOR 2SK2640-01MR	
L405	1-535-143-61	LEAD, JUMPER	(5.0MM)	Q608	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L406	1-535-143-61	LEAD, JUMPER	(5.0MM)	Q609	8-729-026-49	TRANSISTOR 2SA1037AK-T146	
L410	1-216-025-91	RES-CHIP	100 5% 1/10W	Q1210	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L430	1-412-002-41	INDUCTOR	4.7UH	Q1211	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
L446	1-216-295-91	SHORT	0	Q1230	8-729-027-56	TRANSISTOR DTC143TKA-T146	
L448	1-216-295-91	SHORT	0	Q1231	8-729-027-56	TRANSISTOR DTC143TKA-T146	
L501	1-414-187-31	INDUCTOR	47UH	Q1232	8-729-026-49	TRANSISTOR 2SA1037AK-T146	
L502	1-412-529-41	INDUCTOR	22UH	Q1233	8-729-026-49	TRANSISTOR 2SA1037AK-T146	
L503	1-412-521-41	INDUCTOR	4.7UH	< RESISTOR >			
L504	1-535-143-61	LEAD, JUMPER	(5.0MM)	JR4	1-216-295-91	SHORT	0
L505	1-412-542-41	INDUCTOR	270UH	JR7	1-216-295-91	SHORT	0
L507	1-412-533-41	INDUCTOR	47UH	JR10	1-216-295-91	SHORT	0
L532	1-412-553-41	INDUCTOR	3.3MH				

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
JR21	1-216-295-91	SHORT	0	R047	1-216-025-91	RES-CHIP	100 5% 1/10W
JR24	1-216-295-91	SHORT	0	R048	1-216-073-91	RES-CHIP	10K 5% 1/10W
JR25	1-216-295-91	SHORT	0	R049	1-216-049-91	RES-CHIP	1K 5% 1/10W
JR26	1-216-295-91	SHORT	0	R050	1-216-025-91	RES-CHIP	100 5% 1/10W
JR101	1-216-295-91	SHORT	0	R051	1-216-295-91	SHORT	0
JR419	1-216-295-91	SHORT	0	R052	1-216-295-91	SHORT	0
JR423	1-216-296-91	SHORT	0	R053	1-216-077-91	RES-CHIP	15K 5% 1/10W
JR508	1-216-295-91	SHORT	0	R055	1-216-025-91	RES-CHIP	100 5% 1/10W
JR601	1-216-295-91	SHORT	0	R056	1-216-081-91	RES-CHIP	22K 5% 1/10W
JR609	1-216-295-91	SHORT	0	R060	1-216-025-91	RES-CHIP	100 5% 1/10W
JR610	1-216-295-91	SHORT	0	R061	1-216-025-91	RES-CHIP	100 5% 1/10W
JR1209	1-216-295-91	SHORT	0	R070	1-216-025-91	RES-CHIP	100 5% 1/10W
R003	1-216-065-91	RES-CHIP	4.7K 5% 1/10W	R071	1-216-049-91	RES-CHIP	1K 5% 1/10W
R004	1-216-033-91	RES-CHIP	220 5% 1/10W	R072	1-216-295-91	SHORT	0
R005	1-216-041-91	RES-CHIP	470 5% 1/10W	R074	1-216-073-91	RES-CHIP	10K 5% 1/10W
R006	1-216-025-91	RES-CHIP	100 5% 1/10W	R090	1-216-057-91	RES-CHIP	2.2K 5% 1/10W
R007	1-216-025-91	RES-CHIP	100 5% 1/10W	R092	1-216-073-91	RES-CHIP	10K 5% 1/10W
R008	1-216-025-91	RES-CHIP	100 5% 1/10W	R094	1-216-025-91	RES-CHIP	100 5% 1/10W
R009	1-216-049-91	RES-CHIP	1K 5% 1/10W	R095	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
R010	1-216-049-91	RES-CHIP	1K 5% 1/10W	R096	1-216-073-91	RES-CHIP	10K 5% 1/10W
R011	1-216-295-91	SHORT	0	R101	1-216-093-91	RES-CHIP	68K 5% 1/10W
R012	1-216-121-91	RES-CHIP	1M 5% 1/10W	R102	1-216-097-91	RES-CHIP	100K 5% 1/10W
R014	1-216-069-91	RES-CHIP	6.8K 5% 1/10W	R103	1-216-061-91	RES-CHIP	3.3K 5% 1/8W
R015	1-216-198-91	RES-CHIP	1K 5% 1/8W	R104	1-216-295-91	SHORT	0
R017	1-216-025-91	RES-CHIP	100 5% 1/10W	R105	1-414-813-21	INDUCTOR	OUH
R018	1-208-820-91	METAL CHIP	39K 0.5% 1/10W	R106	1-215-900-51	METAL OXIDE	22K 5% 2W
R020	1-216-077-91	RES-CHIP	15K 5% 1/10W	R107	1-216-025-91	RES-CHIP	100 5% 1/10W
R022	1-216-089-91	RES-CHIP	47K 5% 1/10W	R108	1-216-025-91	RES-CHIP	100 5% 1/10W
R023	1-216-035-91	RES-CHIP	270 5% 1/10W	R201	1-216-025-91	RES-CHIP	100 5% 1/10W
R024	1-216-025-91	RES-CHIP	100 5% 1/10W	R202	1-216-073-91	RES-CHIP	10K 5% 1/10W
R025	1-216-025-91	RES-CHIP	100 5% 1/10W	R211	1-216-081-91	RES-CHIP	22K 5% 1/10W
R026	1-216-025-91	RES-CHIP	100 5% 1/10W	R212	1-216-069-91	RES-CHIP	6.8K 5% 1/10W
R027	1-216-025-91	RES-CHIP	100 5% 1/10W	R213	1-216-081-91	RES-CHIP	22K 5% 1/10W
R028	1-216-025-91	RES-CHIP	100 5% 1/10W	R214	1-216-041-91	RES-CHIP	470 5% 1/10W
R029	1-216-061-91	RES-CHIP	3.3K 5% 1/10W	R215	1-216-037-91	RES-CHIP	330 5% 1/10W
R030	1-216-821-91	RES-CHIP	1K 5% 1/16W	R216	1-216-097-91	RES-CHIP	100K 5% 1/10W
R031	1-216-061-91	RES-CHIP	3.3K 5% 1/10W	R217	1-216-222-91	RES-CHIP	10K 5% 1/8W
R032	1-216-061-91	RES-CHIP	3.3K 5% 1/10W	R220	1-216-031-91	RES-CHIP	180 5% 1/10W
R033	1-216-073-91	RES-CHIP	10K 5% 1/10W	R221	1-216-190-91	RES-CHIP	470 5% 1/8W
R034	1-216-119-91	RES-CHIP	820K 5% 1/10W	R232	1-216-025-91	RES-CHIP	100 5% 1/10W
R035	1-216-101-91	RES-CHIP	150K 5% 1/10W	R233	1-216-069-91	RES-CHIP	6.8K 5% 1/10W
R036	1-216-073-91	RES-CHIP	10K 5% 1/10W	R234	1-216-069-91	RES-CHIP	6.8K 5% 1/10W
R039	1-216-065-91	RES-CHIP	4.7K 5% 1/10W	R235	1-216-069-91	RES-CHIP	6.8K 5% 1/10W
R040	1-216-049-91	RES-CHIP	1K 5% 1/10W	R236	1-216-069-91	RES-CHIP	6.8K 5% 1/10W
R041	1-216-025-91	RES-CHIP	100 5% 1/10W	R238	1-216-025-91	RES-CHIP	100 5% 1/10W
R042	1-216-025-91	RES-CHIP	100 5% 1/10W	R246	1-260-107-91	CARBON	4.7K 5% 1/2W
R044	1-216-073-91	RES-CHIP	10K 5% 1/10W	R248	1-249-429-91	CARBON	10K 5% 1/4W
R045	1-216-025-91	RES-CHIP	100 5% 1/10W	R249	1-216-097-91	RES-CHIP	100K 5% 1/10W
R046	1-216-025-91	RES-CHIP	100 5% 1/10W	R250	1-216-230-91	RES-CHIP	22K 5% 1/8W
				R251	1-216-069-91	RES-CHIP	6.8K 5% 1/10W

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK		
R252	1-216-069-91	RES-CHIP	6.8K 5%	1/10W	R453	1-216-171-91	RES-CHIP	75 5%	1/8W
R253	1-216-025-91	RES-CHIP	100 5%	1/10W	R454	1-216-001-91	RES-CHIP	10 5%	1/10W
R254	1-216-025-91	RES-CHIP	100 5%	1/10W	R455	1-412-002-41	INDUCTOR	4.7UH	
R401	1-410-993-42	INDUCTOR	1UH		R460	1-216-049-91	RES-CHIP	1K 5%	1/10W
R402	1-216-041-91	RES-CHIP	470 5%	1/10W	R461	1-216-022-91	RES-CHIP	75 5%	1/10W
R403	1-216-113-91	RES-CHIP	470K 5%	1/10W	R462	1-216-178-91	RES-CHIP	150 5%	1/8W
R404	1-216-113-91	RES-CHIP	470K 5%	1/10W	R500	1-216-061-91	RES-CHIP	3.3K 5%	1/10W
R405	1-216-033-91	RES-CHIP	220 5%	1/10W	R501	1-216-091-91	RES-CHIP	56K 5%	1/10W
R406	1-216-296-91	SHORT	0		R502	1-216-073-91	RES-CHIP	10K 5%	1/10W
R407	1-216-022-91	RES-CHIP	75 5%	1/10W	R503	1-215-888-21	METAL OXIDE	220 5%	2W
R408	1-216-022-91	RES-CHIP	75 5%	1/10W	R504	1-249-385-91	CARBON	2.2 5%	1/4W
R409	1-216-025-91	RES-CHIP	100 5%	1/10W	R505	1-216-667-91	METAL CHIP	4.7K 0.5%	1/10W
R410	1-216-025-91	RES-CHIP	100 5%	1/10W	R506	1-208-796-91	METAL CHIP	3.9K 0.5%	1/10W
R411	1-216-022-91	RES-CHIP	75 5%	1/10W	R507	1-216-349-51	METAL OXIDE	1 5%	1W
R412	1-216-025-91	RES-CHIP	100 5%	1/10W	R508	1-216-667-91	METAL CHIP	4.7K 0.5%	1/10W
R413	1-216-113-91	RES-CHIP	470K 5%	1/10W	R509	1-208-796-91	METAL CHIP	3.9K 0.5%	1/10W
R414	1-216-022-91	RES-CHIP	75 5%	1/10W	R510	1-216-113-91	RES-CHIP	470K 5%	1/10W
R415	1-216-022-91	RES-CHIP	75 5%	1/10W	R512	1-249-382-91	CARBON	1.2 5%	1/4W
R416	1-216-027-91	RES-CHIP	120 5%	1/10W	R513	1-216-097-91	RES-CHIP	100K 5%	1/10W
R417	1-216-113-91	RES-CHIP	470K 5%	1/10W	R514	1-249-377-91	CARBON	0.47 5%	1/4W
R418	1-216-113-91	RES-CHIP	470K 5%	1/10W	R515	1-249-377-91	CARBON	0.47 5%	1/4W
R419	1-216-022-91	RES-CHIP	75 5%	1/10W	R516	1-214-907-81	METAL	56K 1%	1/2W
R420	1-216-073-91	RES-CHIP	10K 5%	1/10W	R517	1-215-445-91	METAL	10K 1%	1/4W
R421	1-216-049-91	RES-CHIP	1K 5%	1/10W	R518	1-216-059-91	RES-CHIP	2.7K 5%	1/10W
R422	1-216-033-91	RES-CHIP	220 5%	1/10W	R520	1-215-884-21	METAL OXIDE	47 5%	2W
R423	1-216-113-91	RES-CHIP	470K 5%	1/10W	R521	1-216-103-91	RES-CHIP	180K 5%	1/10W
R424	1-216-113-91	RES-CHIP	470K 5%	1/10W	R522	1-216-097-91	RES-CHIP	100K 5%	1/10W
R425	1-216-085-91	RES-CHIP	33K 5%	1/10W	R523	1-216-117-91	RES-CHIP	680K 5%	1/10W
R426	1-216-073-91	RES-CHIP	10K 5%	1/10W	R524	1-216-079-91	RES-CHIP	18K 5%	1/10W
R427	1-216-113-91	RES-CHIP	470K 5%	1/10W	R525	1-216-041-91	RES-CHIP	470 5%	1/10W
R428	1-216-073-91	RES-CHIP	10K 5%	1/10W	R526	1-216-089-91	RES-CHIP	47K 5%	1/10W
R429	1-216-089-91	RES-CHIP	47K 5%	1/10W	R527	1-216-075-91	RES-CHIP	12K 5%	1/10W
R430	1-216-073-91	RES-CHIP	10K 5%	1/10W	R528	1-216-097-91	RES-CHIP	100K 5%	1/10W
R431	1-216-073-91	RES-CHIP	10K 5%	1/10W	R529	1-216-073-91	RES-CHIP	10K 5%	1/10W
R433	1-216-073-91	RES-CHIP	10K 5%	1/10W	R530	1-216-085-91	RES-CHIP	33K 5%	1/10W
R434	1-216-073-91	RES-CHIP	10K 5%	1/10W	R531	1-216-057-91	RES-CHIP	2.2K 5%	1/10W
R435	1-216-295-91	SHORT	0		R532	1-216-059-91	RES-CHIP	2.7K 5%	1/10W
R438	1-216-022-91	RES-CHIP	75 5%	1/10W	R533	1-216-081-91	RES-CHIP	22K 5%	1/10W
R439	1-216-022-91	RES-CHIP	75 5%	1/10W	R534	1-216-111-91	RES-CHIP	390K 5%	1/10W
R440	1-216-049-91	RES-CHIP	1K 5%	1/10W	R535	1-216-093-91	RES-CHIP	68K 5%	1/10W
R441	1-216-051-91	RES-CHIP	1.2K 5%	1/10W	R538	1-535-143-71	LEAD, JUMPER (7.5MM)		
R442	1-216-085-91	RES-CHIP	33K 5%	1/10W	R539	1-215-892-81	METAL OXIDE	1K 5%	2W
R443	1-216-073-91	RES-CHIP	10K 5%	1/10W	R540	1-212-970-61	FUSIBLE	33 5%	1/2W
R444	1-216-061-91	RES-CHIP	3.3K 5%	1/10W	R541	1-216-109-91	RES-CHIP	330K 5%	1/10W
R446	1-216-113-91	RES-CHIP	470K 5%	1/10W	R542	1-216-121-91	RES-CHIP	1M 5%	1/10W
R447	1-216-295-91	SHORT	0		R543	1-216-065-91	RES-CHIP	4.7K 5%	1/10W
R448	1-216-113-91	RES-CHIP	470K 5%	1/10W	R544	1-216-103-91	RES-CHIP	180K 5%	1/10W
R449	1-216-295-91	SHORT	0		R546	1-215-479-51	METAL OXIDE	560 5%	3W
R450	1-216-041-91	RES-CHIP	470 5%	1/10W	R547	1-535-143-71	LEAD, JUMPER (7.5MM)		
R451	1-216-041-91	RES-CHIP	470 5%	1/10W	R548	1-249-387-91	CARBON	3.3 5%	1/4W

Note : The components identified by shading and marked Δ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
R549	1-535-143-71	LEAD, JUMPER (7.5MM)		R641	1-216-097-91	RES-CHIP	100K 5% 1/10W
R551	1-215-867-21	METAL OXIDE	470 5% 1W	R642	1-249-405-91	CARBON	100 5% 1/4W
R552	1-216-097-91	RES-CHIP	100K 5% 1/10W	R643	1-216-089-91	RES-CHIP	47K 5% 1/10W
R553	1-249-381-91	CARBON	1 5% 1/4W	R645	1-216-073-91	RES-CHIP	10K 5% 1/10W
R555	1-216-089-91	RES-CHIP	47K 5% 1/10W	R647	1-216-049-91	RES-CHIP	1K 5% 1/10W
R556	1-215-915-51	METAL OXIDE	470 5% 3W	R648	1-215-481-91	METAL	330K 1% 1/4W
R557	1-216-065-91	RES-CHIP	4.7K 5% 1/10W	R649	1-208-805-91	METAL CHIP	9.1K 0.5% 1/10W
R561	1-216-117-91	RES-CHIP	680K 5% 1/10W	R650	1-208-758-91	METAL CHIP	100 0.5% 1/10W
R562	1-216-099-91	RES-CHIP	120K 5% 1/10W	R651	1-220-926-21	FUSIBLE	0.47 10% 1/2W
R563	1-216-097-91	RES-CHIP	100K 5% 1/10W	R652	1-216-081-91	RES-CHIP	22K 5% 1/10W
R565	1-216-033-91	RES-CHIP	220 5% 1/10W	R653	1-216-073-91	RES-CHIP	10K 5% 1/10W
R568	1-216-915-51	METAL OXIDE	470 5% 3W	R654	1-216-001-91	RES-CHIP	10 5% 1/10W
R569	1-216-073-91	RES-CHIP	10K 5% 1/10W	R656	1-216-365-51	METAL OXIDE	0.47 5% 2W
R570	1-216-049-91	RES-CHIP	1K 5% 1/10W	R658	1-202-961-11	CEMENTED	1.8 5% 10W
R571	1-216-035-91	RES-CHIP	270 5% 1/10W	R660	1-247-807-91	CARBON	100 5% 1/4W
R572	1-216-039-91	RES-CHIP	390 5% 1/10W	R1202	1-216-049-91	RES-CHIP	1K 5% 1/10W
R583	1-216-081-91	RES-CHIP	22K 5% 1/10W	R1203	1-216-049-91	RES-CHIP	1K 5% 1/10W
R589	1-216-295-91	SHORT	0	R1207	1-216-077-91	RES-CHIP	15K 5% 1/10W
R591	1-215-892-51	METAL OXIDE	1K 5% 2W	R1208	1-216-067-91	RES-CHIP	5.6K 5% 1/10W
R595	1-249-377-91	CARBON	0.47 5% 1/4W	R1209	1-216-073-91	RES-CHIP	10K 5% 1/10W
R600	1-216-037-91	RES-CHIP	330 5% 1/10W	R1210	1-216-077-91	RES-CHIP	15K 5% 1/10W
R601	1-216-645-91	METAL CHIP	560 0.5% 1/10W	R1211	1-216-049-91	RES-CHIP	1K 5% 1/10W
R602	1-202-961-11	CEMENTED	1.8 5% 10W	R1212	1-216-057-91	RES-CHIP	2.2K 5% 1/10W
R603	1-220-778-11	FUSIBLE	0.1 10% 1/2W	R1213	1-216-049-91	RES-CHIP	1K 5% 1/10W
R605	1-216-049-91	RES-CHIP	1K 5% 1/10W	R1214	1-216-049-91	RES-CHIP	1K 5% 1/10W
R608	1-216-073-91	RES-CHIP	10K 5% 1/10W	R1215	1-216-049-91	RES-CHIP	1K 5% 1/10W
R609	1-216-677-91	METAL CHIP	12K 0.5% 1/10W	R1230	1-216-041-91	RES-CHIP	470 5% 1/10W
R610	1-215-481-91	METAL	330K 1% 1/4W	R1231	1-216-113-91	RES-CHIP	470K 5% 1/10W
R611	1-216-059-91	RES-CHIP	2.7K 5% 1/10W	R1232	1-216-041-91	RES-CHIP	470 5% 1/10W
R612	1-249-429-91	CARBON	10K 5% 1/4W	R1233	1-216-113-91	RES-CHIP	470K 5% 1/10W
R613	Δ 1-219-720-91	METAL	10M 5% 1W	R1235	1-216-073-91	RES-CHIP	10K 5% 1/10W
R615	1-215-385-91	METAL	33 1% 1/4W	R1236	1-216-073-91	RES-CHIP	10K 5% 1/10W
R618	1-247-889-91	CARBON	270K 5% 1/4W	< RELAY >			
R619	1-216-065-91	RES-CHIP	4.7K 5% 1/10W	RY601 Δ 1-755-388-11 RELAY (AC POWER)			
R621	1-216-113-91	RES-CHIP	470K 5% 1/10W	< SWITCH >			
R622	1-216-073-91	RES-CHIP	10K 5% 1/10W	SW532 1-572-707-21 SWITCH, LEVER			
R623	1-216-065-91	RES-CHIP	4.7K 5% 1/10W	< TRANSFORMER >			
R624	1-216-001-91	RES-CHIP	10 5% 1/10W	T511 Δ 1-453-308-31 TRANSFORMER ASSY, FLYBACK (NX-4521//Z2B4)			
R625	1-216-073-91	RES-CHIP	10K 5% 1/10W	T531 1-437-210-21 TRANSFORMER, HORIZONTAL DRIVE			
R627	1-249-389-91	CARBON	4.7 5% 1/4W	T532 1-426-981-91 TRANSFORMER, FERRITE (PMT)			
R628	1-247-791-91	CARBON	22 5% 1/4W	T533 1-433-906-11 TRANSFORMER, HORIZONTAL LINEAR			
R629	1-216-073-91	RES-CHIP	10K 5% 1/10W	T601 Δ 1-427-962-11 TRANSFORMER, LINE FILTER			
R632	1-249-417-91	CARBON	1K 5% 1/4W	T602 Δ 1-431-732-31 TRANSFORMER, CONVERTER (SRT)			
R633	1-215-481-91	METAL	330K 1% 1/4W	T603 Δ 1-435-977-11 TRANSFORMER, CONVERTER (PIT)			
R634	1-217-625-11	METAL	0.05 10% 2W				
R635	1-260-300-71	CARBON	4.7 5% 1/2W				
R636	1-249-413-91	CARBON	470 5% 1/4W				
R637	1-216-041-91	RES-CHIP	470 5% 1/10W				
R639	1-208-814-91	METAL CHIP	22K 0.5% 1/10W				
R640	1-208-830-91	METAL CHIP	100K 0.5% 1/10W				

Note : The components identified by shading and marked Δ are critical for safety. Replace only with the part numbers specified in the parts list.

A C VM

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
		< THERMISTOR >		D708	8-719-923-46	DIODE MTZJ-T-77-6.8B	
TH601	1-803-586-41	THERMISTOR		D709	8-719-923-46	DIODE MTZJ-T-77-6.8B	
THP601 Δ	1-803-951-11	THERMISTOR, PTC		D710	8-719-923-46	DIODE MTZJ-T-77-6.8B	
		< CRYSTAL >		D1801	8-719-048-53	DIODE MTZJ-T-77-10	
X001	1-578-774-71	VIBRATOR, CRYSTAL		D1802	8-719-048-53	DIODE MTZJ-T-77-10	
X201	1-760-628-21	VIBRATOR, CRYSTAL		D1803	8-719-048-53	DIODE MTZJ-T-77-10	
A Board Variant Parts KV-29LS30/29LS35						< IC >	
IC201	6-700-410-01	IC MSP3410G-PP-B8 (KV-29LS30)		IC701	8-759-562-43	IC TDA6108JF/N1B	
	6-700-374-01	IC MSP3411G-PP-B9 (KV-29LS35)		IC1801	8-759-603-37	IC M5216P	
		< IC >				< SOCKET >	
		< TUNER >		J701 Δ	1-251-732-11	SOCKET, CRT	
TU101	8-598-533-00	FRONTEND BTF-EC411 (KV-29LS30E/29LS30K/ KV-29LS35E/29LS35K)		L704	1-414-183-31	INDUCTOR	10UH
	8-598-529-00	FRONTEND BTF-EU611 (KV-29LS30U)				< RESISTOR >	
	8-598-535-10	FRONTEND BTF-EF411 (KV-29LS35B)		R701	1-247-903-91	CARBON	1M 5% 1/4W
*A-1639-019-A C Board, Complete				R702	1-249-429-91	CARBON	10K 5% 1/4W
	4-382-854-01	SCREW (M3X8), P, SW (+)		R703	1-247-903-91	CARBON	1M 5% 1/4W
		< CAPACITOR >		R704	1-535-143-21	LEAD, JUMPER (12.5MM)	
C701	1-136-189-91	MYLAR	0.1UF	R705	1-215-869-21	METAL OXIDE	1K 5% 1W
C702	1-126-964-91	ELECT	10UF	R706	1-247-819-91	CARBON	330 5% 1/4W
C703	1-101-004-91	CERAMIC	0.001UF	R712	1-215-869-21	METAL OXIDE	1K 5% 1W
C704	1-107-649-91	ELECT	2.2UF	R716	1-247-819-91	CARBON	330 5% 1/4W
C708	1-162-114-51	CERAMIC	0.0047UF	R718	1-202-814-91	SOLID	33K 10% 1/2W
				R726	1-215-869-21	METAL OXIDE	1K 5% 1W
C710	1-107-652-91	ELECT	10UF	R727	1-247-819-91	CARBON	330 5% 1/4W
C1803	1-101-005-91	CERAMIC	0.022UF	R728	1-249-398-91	CARBON	27 5% 1/4W
C1804	1-126-964-91	ELECT	10UF	R741	1-202-549-81	SOLID	100 20% 1/2W
C1805	1-101-880-91	CERAMIC	47PF	R1801	1-249-441-91	CARBON	100K 5% 1/4W
		< CONNECTOR >		R1805	1-249-429-91	CARBON	10K 5% 1/4W
CN702	1-695-915-21	TAB (CONTACT)		R1806	1-247-899-91	CARBON	680K 5% 1/4W
CN703	*1-564-510-51	PLUG, CONNECTOR 7P		R1807	1-249-429-91	CARBON	10K 5% 1/4W
CN706	1-695-915-21	TAB (CONTACT)		R1808	1-249-429-91	CARBON	10K 5% 1/4W
CN707	*1-564-508-51	PLUG, CONNECTOR 5P		R1809	1-249-429-91	CARBON	10K 5% 1/4W
CN1801	*1-564-506-51	PLUG, CONNECTOR 3P		R1810	1-249-429-91	CARBON	10K 5% 1/4W
		< VARIABLE RESISTOR >					
		< DIODE >		RV702	1-225-952-11	RES, ADJ, METAL FILM	110M
*A-1645-045-A VM Board, Complete							
D701	8-719-991-33	DIODE 1SS133T				< CAPACITOR >	
D702	8-719-901-83	DIODE 1SS83					
D703	8-719-989-09	DIODE 1SS83TA		C1701	1-104-665-91	ELECT	100UF 20.00% 25V
D705	8-719-936-85	DIODE RGP10GPG23		C1702	1-162-970-91	CERAMIC CHIP	0.01UF 20.00% 25V
D706	8-719-901-83	DIODE 1SS83		C1703	1-162-955-91	CERAMIC CHIP	150PF 5.00% 50V
D707	8-719-901-83	DIODE 1SS83		C1704	1-104-665-91	ELECT	100UF 20.00% 25V

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C1705	1-162-919-91	CERAMIC CHIP 22PF	5.00% 50V	D1905	8-719-110-41	DIODE RD15ES-B2	
C1710	1-106-375-81	MYLAR	0.022UF 10.00% 250V	D1906	8-719-970-87	DIODE ERA38-06	
C1711	1-106-375-81	MYLAR	0.022UF 10.00% 250V	D1907	8-719-970-87	DIODE ERA38-06	
C1713	1-110-182-81	FILM	0.022UF 10.00% 250V	D1908	8-719-300-33	DIODE RU-3AM	
C1721	1-107-639-91	ELECT	47UF 20.00% 160V	D1909	8-719-991-33	DIODE 1SS133T-77	
C1722	1-136-153-81	FILM	0.01UF 5.00% 50V			< FERRITE BEAD >	
C1723	1-126-935-91	ELECT	470UF 20.00% 10V	FB1701	1-535-143-61	LEAD, JUMPER (5.0MM)	
C1728	1-126-935-91	ELECT	470UF 20.00% 10V			< IC >	
C1733	1-104-664-91	ELECT	47UF 20.00% 25V				
C1734	1-104-664-91	ELECT	47UF 20.00% 25V				
C1737	1-104-999-51	FILM	0.01UF 5.00% 200V	IC1701	8-759-394-36	IC BA09T	
C1844	1-129-716-91	FILM	0.015UF 5.00% 630V	IC1901	8-759-450-95	IC LM393N	
C1845	1-129-725-91	FILM	0.082UF 5.00% 400V	IC1902	8-759-008-70	IC LM358N	
C1848	1-136-347-91	FILM	0.0047UF 5.00% 630V			< COIL >	
C1901	1-162-927-91	CERAMIC CHIP	100PF 5.00% 50V				
C1902	1-137-374-91	MYLAR	0.047UF 5.00% 50V	L1701	1-414-183-31	INDUCTOR	10UH
C1903	1-126-964-91	ELECT	10UF 20.00% 50V	L1702	1-414-183-31	INDUCTOR	10UH
C1904	1-137-366-91	MYLAR	0.0022UF 5.00% 50V	L1703	1-414-184-31	INDUCTOR	15UH
C1905	1-137-374-91	MYLAR	0.047UF 5.00% 50V	L1843	1-406-989-11	INDUCTOR	10MH
C1906	1-162-970-91	CERAMIC CHIP	0.01UF 10.00% 25V	L1901	1-406-677-21	INDUCTOR	10MH
C1911	1-109-954-91	ELECT	0.47UF 20.00% 160V	L1959	1-406-679-21	INDUCTOR	22MH
C1913	1-129-992-91	FILM	0.0024UF 5.00% 630V			< TRANSISTOR >	
C1914	1-102-244-91	CERAMIC	220PF 10.00% 500V	Q1701	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
C1915	1-136-205-91	MYLAR	0.022UF 10.00% 250V	Q1704	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
C1916	1-162-962-91	CERAMIC CHIP	470PF 10.00% 50V	Q1705	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C1917	1-102-228-91	CERAMIC	470PF 10.00% 500V	Q1706	8-729-026-39	TRANSISTOR 2SA933AS-QT	
C1951	1-126-964-91	ELECT	10UF 20.00% 50V	Q1707	8-729-049-09	TRANSISTOR BC327-25	
C1952	1-126-964-91	ELECT	10UF 20.00% 50V				
C1953	1-137-367-91	MYLAR	0.0033UF 5.00% 50V	Q1708	8-729-045-05	TRANSISTOR 2SA2005	
C1954	1-162-970-91	CERAMIC CHIP	0.01UF 10.00% 25V	Q1709	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C1957	1-126-964-91	ELECT	10UF 20.00% 50V	Q1710	8-729-049-10	TRANSISTOR BC337-25	
C1958	1-136-169-91	FILM	0.22UF 5.00% 50V	Q1711	8-729-045-04	TRANSISTOR 2SC5511	
C1959	1-136-169-91	FILM	0.22UF 5.00% 50V	Q1840	8-729-119-76	TRANSISTOR 2SA1175-HFE	
						< CONNECTOR >	
CN1701	1-691-771-11	PLUG (MICRO CONNECTOR)	9P				
CN1702	*1-564-506-51	PLUG, CONNECTOR	3P				
CN1718	*1-770-723-11	CONNECTOR, BOARD TO BOARD	8P				
						< DIODE >	
D1711	8-719-988-61	DIODE 1SS355TE-17					
D1719	8-719-991-33	DIODE 1SS133T-77					
D1722	8-719-991-33	DIODE 1SS133T-77					
D1733	8-719-921-40	DIODE MTZJ-4.7C					
D1734	8-719-921-40	DIODE MTZJ-4.7C					
D1840	8-719-302-43	DIODE EL1Z					
D1901	8-719-991-33	DIODE 1SS133T-77					
D1902	8-719-991-33	DIODE 1SS133T-77					
D1903	8-719-991-33	DIODE 1SS133T-77					
D1904	8-719-991-33	DIODE 1SS133T-77					
						< RESISTOR >	
JR1702	1-216-814-91	RES-CHIP		270	5%	1/16W	
R1701	1-216-814-91	RES-CHIP		270	5%	1/16W	
R1702	1-216-814-91	RES-CHIP		270	5%	1/16W	
R1709	1-216-824-91	RES-CHIP		1.8K	5%	1/16W	
R1710	1-216-839-91	RES-CHIP		33K	5%	1/16W	
R1711	1-216-823-91	RES-CHIP		1.5K	5%	1/16W	
R1712	1-216-824-91	RES-CHIP		1.8K	5%	1/16W	

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
R1713	1-216-809-91	RES-CHIP	100 5% 1/16W	R1954	1-216-109-91	RES-CHIP	330K 5% 1/10W
R1714	1-260-089-81	CARBON	150 5% 1/2W	R1955	1-216-105-91	RES-CHIP	220K 5% 1/10W
R1719	1-216-822-91	RES-CHIP	1.2K 5% 1/16W	R1956	1-218-463-91	RES-CHIP	8.2M 5% 1/10W
R1720	1-247-863-91	RES-CHIP	22K 5% 1/4W	R1957	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1721	1-247-863-91	RES-CHIP	22K 5% 1/4W	R1958	1-216-025-91	RES-CHIP	100 5% 1/10W
R1722	1-216-822-91	RES-CHIP	1.2K 5% 1/16W	R1959	1-216-063-91	RES-CHIP	3.9K 5% 1/10W
R1723	1-249-399-91	CARBON	33 5% 1/4W	R1960	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1724	1-216-830-91	RES-CHIP	5.6K 5% 1/16W	R1961	1-216-687-91	METAL CHIP	33K 0.5% 1/10W
R1725	1-247-889-91	RES-CHIP	270K 5% 1/4W	R1962	1-216-687-91	METAL CHIP	33K 0.5% 1/10W
R1726	1-247-889-91	RES-CHIP	270K 5% 1/4W	R1964	1-216-025-91	RES-CHIP	100 5% 1/10W
R1727	1-216-830-91	RES-CHIP	5.6K 5% 1/16W	R1965	1-216-041-91	RES-CHIP	470 5% 1/10W
R1728	1-249-399-91	CARBON	33 5% 1/4W	R1966	1-215-886-91	METAL OXIDE	100 5% 2W
R1729	1-249-407-91	CARBON	150 5% 1/4W	R1967	1-215-922-51	METAL OXIDE	6.8K 5% 3W
R1732	1-249-407-91	CARBON	150 5% 1/4W	R1968	1-215-886-91	METAL OXIDE	100 5% 2W
R1733	1-214-809-81	METAL	5.1 1% 1/2W	R1969	1-216-485-21	METAL OXIDE	5.6K 5% 3W
R1734	1-214-809-81	METAL	5.1 1% 1/2W				< TRANSFORMER >
R1735	1-215-922-21	METAL OXIDE	6.8K 5% 3W	T1901	1-433-849-11	TRANSFORMER, DYNAMIC FOCUS	
R1736	1-215-892-51	CARBON	1K 5% 2W				
R1737	1-215-867-21	METAL OXIDE	470 5% 1W				
R1739	1-249-379-51	CARBON	0.68 5% 1/4W				
R1842	1-216-025-91	RES-CHIP	100 5% 1/10W				< CAPACITOR >
R1846	1-216-057-91	RES-CHIP	2.2K 5% 1/10W	C906	1-126-960-91	ELECT	1UF 20.00% 50V
R1847	1-216-476-21	METAL OXIDE	180 5% 3W	C907	1-126-960-91	ELECT	1UF 20.00% 50V
R1848	1-215-911-21	METAL OXIDE	100 5% 3W				
R1903	1-216-073-91	RES-CHIP	10K 5% 1/10W				< CONNECTOR >
R1904	1-216-073-91	RES-CHIP	10K 5% 1/10W	CN906	*1-564-524-11	PLUG, CONNECTOR 9P	
R1905	1-216-097-91	RES-CHIP	100K 5% 1/10W	CN908	1-564-521-11	PLUG, CONNECTOR 6P	
R1906	1-216-073-91	RES-CHIP	10K 5% 1/10W				
R1907	1-216-097-91	RES-CHIP	100K 5% 1/10W				
R1908	1-216-033-91	RES-CHIP	220 5% 1/10W				< DIODE >
R1909	1-215-489-91	METAL	680K 1% 1/4W	D902	8-719-929-15	DIODE HZS9.1NB2	
R1910	1-216-295-91	SHORT	0	D903	8-719-929-15	DIODE HZS9.1NB2	
R1911	1-216-073-91	RES-CHIP	10K 5% 1/10W	D904	8-719-109-97	DIODE RD6.8ES-B2	
R1912	1-216-121-91	RES-CHIP	1M 5% 1/10W	D905	8-719-109-97	DIODE RD6.8ES-B2	
R1913	1-216-049-91	RES-CHIP	1K 5% 1/10W	D908	8-719-923-58	DIODE MTZJ-T-77-9.1A	
R1914	1-216-057-91	RES-CHIP	2.2K 5% 1/10W				< JACK >
R1915	1-216-065-91	RES-CHIP	4.7K 5% 1/10W	J900	1-750-264-11	JACK	
R1916	1-216-667-91	METAL CHIP	4.7K 0.5% 1/10W	J901	1-779-947-12	TERMINAL BLOCK, S	
R1917	1-216-693-91	METAL CHIP	56K 0.5% 1/10W				
R1918	1-215-922-91	METAL OXIDE	6.8K 5% 3W				
R1919	1-216-675-91	METAL CHIP	10K 0.5% 1/10W				< COIL >
R1920	1-216-295-91	SHORT	0	L900	1-535-143-61	LEAD, JUMPER (5.0MM)	
R1921	1-215-922-91	METAL OXIDE	6.8K 5% 3W	L901	1-535-143-61	LEAD, JUMPER (5.0MM)	
R1922	1-215-919-91	METAL OXIDE	2.2K 5% 3W	L902	1-535-143-61	LEAD, JUMPER (5.0MM)	
R1923	1-216-097-91	RES-CHIP	100K 5% 1/10W	L903	1-535-143-61	LEAD, JUMPER (5.0MM)	
R1924	1-216-097-91	RES-CHIP	100K 5% 1/10W	L904	1-410-119-21	INDUCTOR 1MH	
R1925	1-216-097-91	RES-CHIP	100K 5% 1/10W				< RESISTOR >
R1926	1-216-295-91	SHORT	0				
R1931	1-216-691-91	METAL CHIP	47K 0.5% 1/10W	R901	1-249-427-91	CARBON	6.8K 5% 1/4W
R1953	1-216-107-91	RES-CHIP	270K 5% 1/10W	R902	1-249-429-91	CARBON	10K 5% 1/4W

Note : The components identified by shading and marked **△** are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
R903	1-249-406-91	CARBON	120 5% 1/4W		*4-206-049-41	MANUAL, INSTRUCTION (KV-29LS30E) (GERMAN/GREEK/TURKISH)	
R904	1-249-406-91	CARBON	120 5% 1/4W		*4-206-049-21	MANUAL, INSTRUCTION (KV-29LS30K) (BELGIAN/CZECH/ENGLISH/HUNGARIAN/ POLISH/RUSSIAN)	
R909	1-247-895-91	CARBON	470K 5% 1/4W		*4-206-049-51	MANUAL, INSTRUCTION (KV-29LS30U) (ENGLISH)	
R910	1-247-895-91	CARBON	470K 5% 1/4W		*4-205-951-71	MANUAL, INSTRUCTION (KV-29LS35B) (GERMAN/FRENCH/ITALIAN/DUTCH)	
R911	1-249-419-91	CARBON	1.5K 5% 1/4W		*4-205-951-21	MANUAL, INSTRUCTION (KV-29LS35B) (ENGLISH)	
R912	1-535-143-61	LEAD, JUMPER (5.0MM)			*4-205-951-51	MANUAL, INSTRUCTION (KV-29LS35E) (DANISH/SPANISH/NORWEGIAN/PORTUGUESE/ SWEDISH/FINNISH)	
R913	1-247-843-91	CARBON	3.3K 5% 1/4W		*4-205-951-61	MANUAL, INSTRUCTION (KV-29LS35E) (GERMAN/GREEK/TURKISH)	
R914	1-249-431-91	CARBON	15K 5% 1/4W		*4-205-951-11	MANUAL, INSTRUCTION (KV-29LS35E) (ITALIAN)	
R915	1-249-406-91	CARBON	120 5% 1/4W		*4-205-951-41	MANUAL, INSTRUCTION (KV-29LS35K) (BELGIAN/CZECH/ENGLISH/HUNGARIAN/ POLISH/RUSSIAN)	
R916	1-249-406-91	CARBON	120 5% 1/4W				
R917	1-247-807-91	CARBON	100 5% 1/4W				
R918	1-247-807-91	CARBON	100 5% 1/4W				
			< SWITCH >				
S900	1-692-979-11	SWITCH, TACTILE					
S901	1-692-979-11	SWITCH, TACTILE					
S902	1-692-979-11	SWITCH, TACTILE					

MISCELLANEOUS

- △ 1-416-654-11 COIL DEMAGNETIC
 - 1-452-032-11 MAGNET, DISK; 10MM
 - 1-452-094-00 MAGNET, ROTATABLE DISK; 15MM
 - 1-452-896-11 COIL, NA ROTATION, (RT-200)
 - 8-453-011-11 NECK ASSY, (NA299-M)
- △ 1-453-308-31 TRANSFORMER ASSY, FLYBACK (NX-4521//Z2B4)
 - 1-529-417-11 SPEAKER (8CM)
 - 1-529-408-11 SPEAKER (4.2x24CM)
- △ 1-251-537-22 CAP ASSY, HIGH-VOLTAGE
- △ 1-571-433-31 SWITCH, PUSH (AC POWER)
- △ 1-765-286-11 CORD, POWER (KV-29LS30E/29LS30K/
KV-29LS35E/29LS35K)
- △ 1-776-204-11 POWER CORD, FILTER (KV-29LS30U)
- △ 1-776-204-12 POWER CORD, FILTER (KV-29LS35B)
- 1-424-733-11 COIL, PFC CKOKE 65MMH
- 8-598-533-00 FRONTEND BTF-EC411 (KV-29LS30E/29LS30K/
KV-29LS35E/29LS35K)
- 8-598-529-00 FRONTEND BTF-EU611 (KV-29LS30U)
- 8-598-535-10 FRONTEND BTF-EF411 (KV-29LS35B)
- △ 8-735-053-05 PICTURE TUBE (M68LNH060X)
- 8-451-494-51 DEFLECTION YOKE (Y29RSA-L)

ACCESSORIES AND PACKAGING MATERIALS

- *4-029-168-01 BAG, PROTECTION
- 4-205-942-01 INDIVIDUAL CARTON
- 4-205-940-01 CUSHION UPPER
- 4-205-941-01 CUSHION LOWER
- *4-206-049-11 MANUAL, INSTRUCTION (KV-29LS30E)
(SPANISH/PORTUGUESE/DANISH/NORWEGIAN/
SWEDISH/FINNISH)

TRACE

A new TV Repair Assistance Tool that combines ease of use and powerful PC software tools to allow you to save valuable time during many TV repairs.



The TRACE interface connects to the PC's serial port. It provides connection to the TV's I²C bus and can be provided with an InfraRed transmitter (optional).

The interface is powered by a standard 9 V PP3 battery for portable use, and can also be powered by an external 9V/25mA DC power supply.

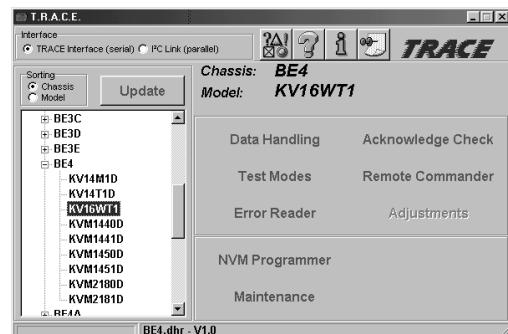
The TRACE software that is supplied with the interface allows you to:

- Read, restore and compare NVM contents via the I²C bus
- Acknowledge check of all I²C devices in the TV set
- Read Error Codes (emulation of the Error Reader tool)

With the optional IR Add-on kit, the following features can be added:

- Remote Commander emulation
- User programmable Functional Check through Infrared
- Fast and documented Test Mode setting of all Sony TV chassis

Additional features such as Adjustments and Troubleshooting are available in chassis-dependent software modules. Please contact your local Sony Service organisation for the latest information.



Note: For workshops already using the existing I²C Link parallel port interface (9-948-320-30), this software can be used as well, replacing the TV Data Handling software (9-948-340-50), but Error Reader and IR functions can only be accessed with the TRACE interface.

Partnumbers: TRACE Starter Kit (TRACE interface + software): 9-948-320-70
TRACE Software (for users of the I²C Link interface): 9-948-340-80
TRACE IR Add-on (IR interface + Remote Commander software): 9-948-320-80

PC requirements: IBM-compatible PC with operating system Windows95, Windows98, or WindowsNT*.

* WindowsNT only supported with TRACE interface